

SI 8MR

SI 10MR

SI 12TR

SI 14TR

SI 16TR

SI 20TR

Dimplex

**Montage- und
Gebrauchsanweisung**

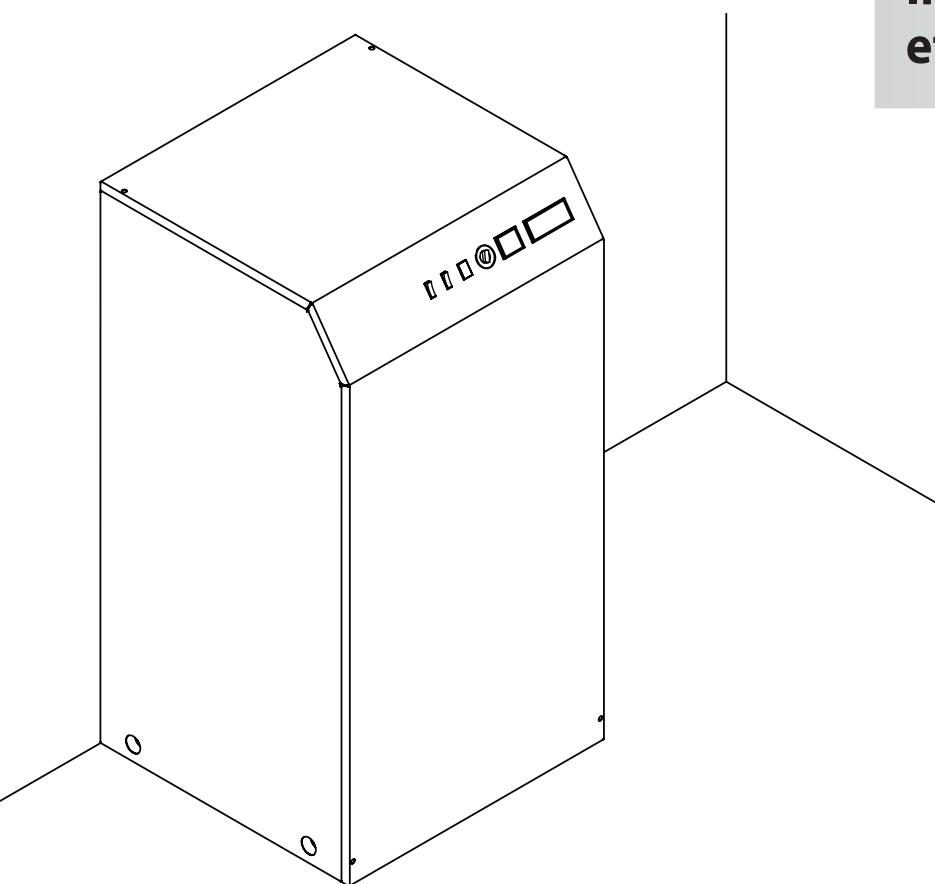
Deutsch

**Installation and
Operating Instructions**

English

**Instructions d'installation
et d'utilisation**

Français



**Sole/Wasser-
Wärmepumpe für
Innenaufstellung**

**Brine-to-Water
Heat Pump for
Indoor Installation**

**Pompe à chaleur
eau glycolée-eau
pour installation
intérieure**

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1 Please read immediately

1.1 Important information

⚠ ATTENTION!

The heat pump is not secured to the wooden pallet.

⚠ ATTENTION!

The heat pump must not be tilted more than 45° (in any direction).

⚠ ATTENTION!

Do not use the holes in the panel assemblies for lifting the device!

⚠ ATTENTION!

Flush the heating system prior to connecting the heat pump.

⚠ ATTENTION!

In the case of large-volume heating circuits, use an additional expansion vessel to supplement the installed expansion vessel.

⚠ ATTENTION!

Insert a dirt trap in the heat source inlet of the heat pump to protect the evaporator against the ingress of impurities.

⚠ ATTENTION!

The brine solution must contain at least 25 % of an antifreeze agent on a mono-ethylene glycol or propylene glycol basis and must be mixed prior to filling.

⚠ ATTENTION!

When there is danger of frost, the circulating pump will also start immediately in standby mode after connecting the power supply.

⚠ ATTENTION!

To prevent the accumulation of deposits (e.g. rust) we recommend using a suitable corrosion protection system.

⚠ ATTENTION!

Any work on the heat pump may only be performed by authorised and qualified after-sales service technicians.

⚠ ATTENTION!

Disconnect all electrical circuits from the power source prior to opening the device.

1.2 Legal Regulations and Directives

This heat pump conforms to all relevant DIN/VDE regulations and EU directives. Refer to the EC Declaration of Conformity in the appendix for details.

The heat pump must be connected to the power supply in compliance with all relevant VDE, EN and IEC standards. Any further connection requirements stipulated by local utility companies must also be observed.

The heat pump is to be connected to the heat source system and the heating or cooling system in accordance with all applicable regulations.

1.3 Energy-Efficient Use of the Heat Pump

By operating this heat pump you are helping to protect our environment. The heating or cooling system and the heat source must be properly designed and dimensioned to ensure efficient operation. It is particularly important to keep water flow temperatures as low as possible in heating operation. All connected energy consumers should therefore be suitable for low flow temperatures. Raising the heating water temperature by 1 K corresponds to an increase in energy consumption of approx. 2.5 %. Low-temperature heating systems with flow temperatures between 30 °C and 50 °C are optimally suited for energy-efficient operation.

2 Purpose of the Heat Pump

2.1 Application

The brine-to-water heat pump is designed for use in existing or newly built heating systems. Brine is used as the heat transfer medium in the heat source system. Borehole heat exchangers, ground heat collectors or similar systems can be used as the heat source.

2.2 Operating Principle

Heating

The heat generated by the sun, wind and rain is stored in the ground. This heat stored in the ground is collected at a low temperature by the brine circulating in the ground heat collector, the borehole heat exchanger or a similar system. A circulating pump then conveys the "heated" brine to the evaporator of the heat pump. There the heat is given off to the refrigerant in the refrigerating cycle. This cools the brine so that it can once again absorb thermal energy in the brine circuit.

The refrigerant is drawn in by the electrically driven compressor, compressed and "pumped" to a higher temperature level. The electrical power needed to run the compressor is not lost in this process. Most of it is absorbed by the refrigerant.

Subsequently, the refrigerant is passed through the condenser where it transfers its heat energy to the heating water. Depending on the set operating point (thermostat setting), the heating water is thus heated up to a max. of 60 °C.

Cooling

The functions of the evaporator and the liquifier are reversed in the "Cooling" operating mode.

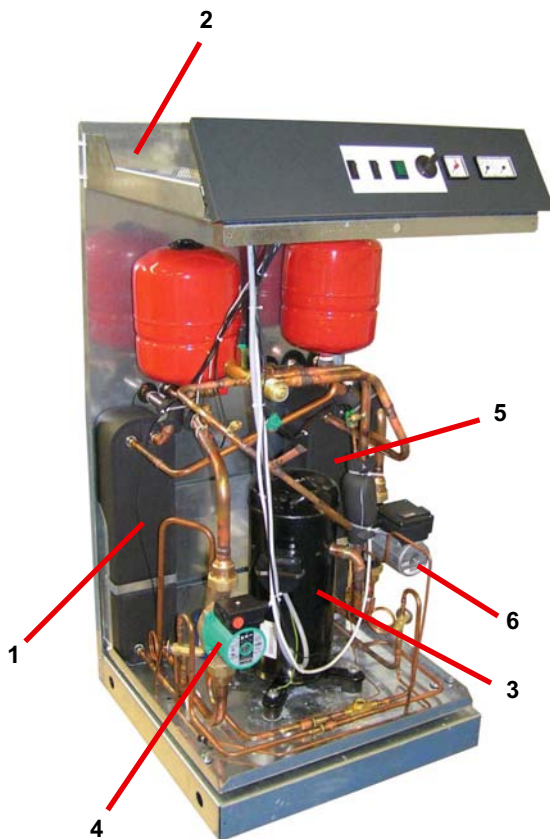
The heating water gives up its heat to the refrigerant via the liquifier which is now functioning as an evaporator. The refrigerant is pumped to a higher temperature level using the compressor. Heat passes into the brine via the liquifier (evaporator in heating operation) and consequently into the ground.

3 Basic Device

The basic device consists of a ready-to-use heat pump for indoor installation, complete with sheet metal casing, control panel and integrated control system. The refrigerating cycle contains the refrigerant R407C. R407C refrigerant is CFC-free, non-ozone depleting and non-combustible.

All components required for the operation of the heat pump are located on the control panel. The power feed for the load current and the control current must be installed by the customer.

The collector including the brine manifold must be provided by the customer.

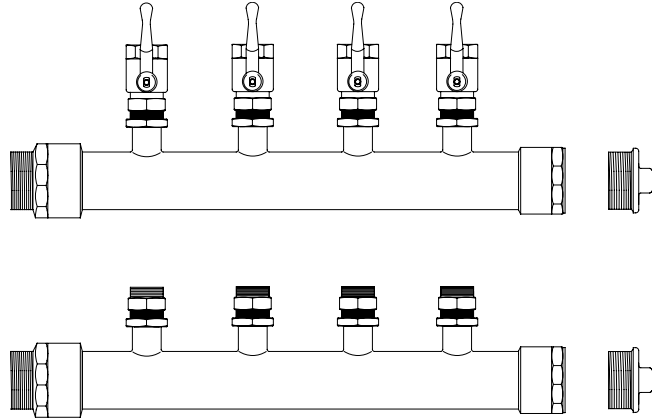


- 1) Liquifier
- 2) Control panel
- 3) Compressor
- 4) Heating pump
- 5) Evaporator
- 6) Primary pump

4 Accessories

4.1 Brine circuit manifold

The brine circuit manifold merges the individual collector loops of the heat source system into a single main pipe which is connected to the heat pump. Integrated ball valves allow the individual brine circuits to be shut off for de-aeration purposes.

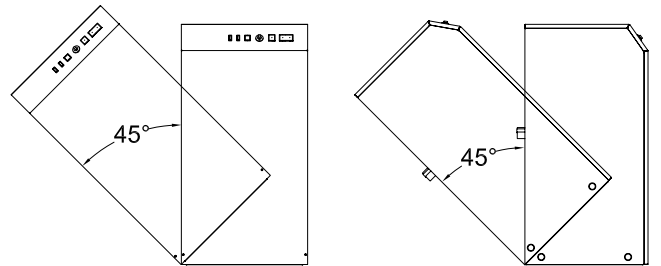


5 Transport

A lift truck is suited for transporting the unit on a level surface. Carrying straps may be used if the heat pump needs to be transported on an uneven surface or carried up or down stairs. These straps can be passed directly underneath the wooden pallet.

⚠ ATTENTION!

The heat pump is not secured to the wooden pallet.



⚠ ATTENTION!

The heat pump must not be tilted more than 45° (in any direction).

Use the holes provided in the sides of the frame to lift the unit without the pallet. The side panel assemblies must be removed for this purpose. Any commercially available length of pipe can be used as a carrying aid.

⚠ ATTENTION!

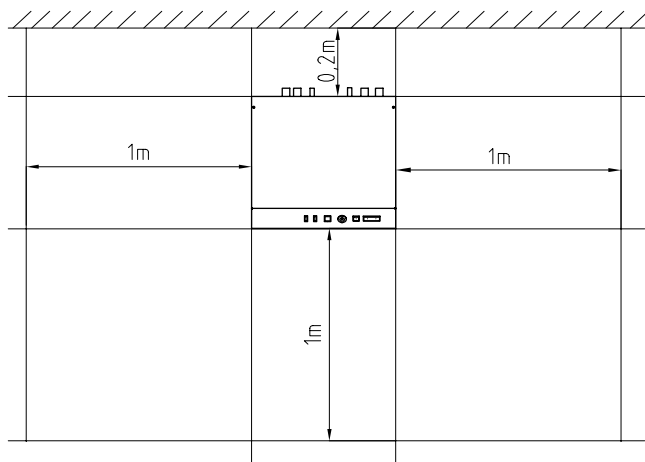
Do not use the holes in the panel assemblies for lifting the device!

6 Installation

6.1 General Information

The unit must be installed indoors on a level, smooth and horizontal surface. The entire base of the frame should lie directly on the floor to ensure a good soundproof seal. If this is not the case, additional sound insulation measures may be necessary.

The heat pump must be installed so that maintenance work can be carried out without being hindered. This can be ensured by maintaining a clearance of approx. 1 m in front of and on each side of the heat pump.



6.2 Acoustic Emissions

The heat pump operates silently due to efficient sound insulation. To prevent vibrations from being transmitted to the foundation, a suitable, sound dampening rubber mat should be placed underneath the base frame of the heat pump.

To prevent any sound from being transmitted to the heating system, we recommend connecting the heat pump to the heating system by means of hose sections.

7 Installation

7.1 General Information

The following connections need to be established on the heat pump:

- Flow and return flow of the brine system
- Flow and return flow of the heating system
- Power supply
- Outflows for the pressure relief valves

7.2 Heating System Connection

⚠ ATTENTION!

Flush the heating system prior to connecting the heat pump.

Before connecting the heating water system to the heat pump, the heating system must be flushed to remove any impurities, residue from sealants, etc. Any accumulation of deposits in the liquifier could cause the heat pump to completely break down.

Once the heating system has been installed, it must be filled, de-aerated and pressure-tested. The pressure indicator is located on the control panel.

Minimum heating water flow rate

The minimum heating water flow rate through the heat pump must be assured in all operating states of the heating system. This can be accomplished, for example, by installing either a manifold without differential pressure or an overflow valve. The procedure for adjusting an overflow valve is described in the Chapter Start-Up.

Antifreeze protection for installation locations prone to frost

The antifreeze function of the heat pump controller is active whenever the heat pump is ready for operation. If the heat pump is taken out of service or in the event of a power failure, the system has to be drained. The heating circuit should be operated with a suitable antifreeze if heat pump systems are implemented in buildings where a power failure can not be detected (holiday home).

The integrated expansion vessel has a volume of 8 litres. The volume should be checked by the heating system engineer. Install an additional expansion vessel if necessary.

⚠ ATTENTION!

In the case of large-volume heating circuits, use an additional expansion vessel to supplement the installed expansion vessel.

7.3 Heat Source Connection

The following procedure must be observed when connecting the heat source:

Connect the brine pipe to the heat pump flow and return.

⚠ ATTENTION!

Insert a dirt trap in the heat source inlet of the heat pump to protect the evaporator against the ingress of impurities.

In addition, a breather must be installed at the highest point in the heat source system.

The brine liquid must be produced prior to charging the system. The liquid must have an antifreeze concentration of at least 25 % to ensure frost protection down to -14 °C.

Only monoethylene glycol or propylene glycol-based antifreeze may be used.

The heat source system must be de-aerated and checked for leaks. The pressure indicator is located on the control panel.

⚠ ATTENTION!

The brine solution must contain at least 25 % of an antifreeze agent on a mono-ethylene glycol or propylene glycol basis and must be mixed prior to filling.

7.4 Electrical Connection

Connect the mains supply cable to the control panel of the heat pump via terminal X1.

⚠ ATTENTION!

When there is danger of frost, the circulating pump will also start immediately in standby mode after connecting the power supply.

All electrical components required for the operation of the heat pump are located on the control panel.

Heat pump - special tariff

Many utility companies offer a special agreement with a lower electricity tariff when heat pumps are implemented. In return, the utility company is able to block the heat pump at times of peak demand.

If this is the case, the customer must provide an all-pole disconnecting device with a contact gap of at least 3 mm (e.g. utility blocking contactor or power contactor) as well as a circuit breaker with common tripping for all external conductors. The required cross-sectional area of the conductor is to be selected according to the power consumption of the heat pump, the technical connection requirements of the relevant utility company as well as all applicable regulations. Details on the power consumption of the heat pump are listed on both the product information sheet and the type plate. The connection terminals are designed for a max. conductor cross-section of 10mm².

8 Start-up

8.1 General Information

To ensure that start-up is performed correctly, it should only be carried out by an after-sales service technician authorized by the manufacturer. This will lead, under certain circumstances, to an extension of the warranty period (cf. Warranty). Start-up should be carried out in heating operation.

8.2 Preparation

The following items need to be checked prior to start-up:

- All of the heat pump connections must be established as described in Chapter 7.
- The heat source system and the heating circuit must have been filled and checked.
- The dirt trap must have been inserted in the brine inlet of the heat pump.
- All valves that could impair proper flow in the brine and heating circuits must be open.

8.3 Start-Up Procedure

The heat pump is started up using the switch (1).

If an overflow valve is fitted to maintain the minimum heating water flow rate, the valve must be adapted to the requirements of the heating system. Incorrect adjustment can lead to faulty operation and increased energy consumption. We recommend carrying out the following procedure to correctly adjust the overflow valve:

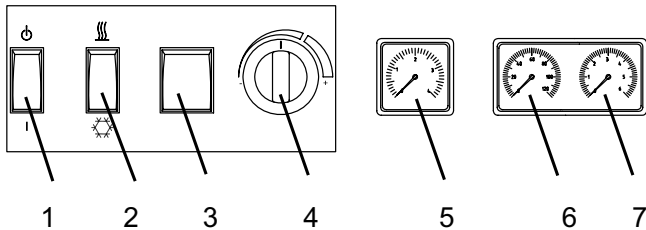
Close all of the heating circuits that may also be closed during operation (depending on the type of heat pump usage) so that the most unfavourable operating state - with respect to the water flow rate - is achieved. This normally means the heating circuits of the rooms on the south and west sides of the building. At least one heating circuit must remain open (e.g. bathroom).

The overflow valve should be opened far enough to produce the maximum temperature spread between the heating flow and return flow listed in the table below for the current heat source temperature. The temperature spread should be measured as close as possible to the heat pump. The heating element of mono energy systems should be disconnected.

Heat source temperature		Max. temperature spread between heating flow and return flow
From	To	
-5 °C	0 °C	10 K
1° C	5° C	11 K
6° C	9° C	12 K
10° C	14° C	13 K
15° C	20° C	14 K
21° C	25° C	15 K

9 Description of the Control System Functions

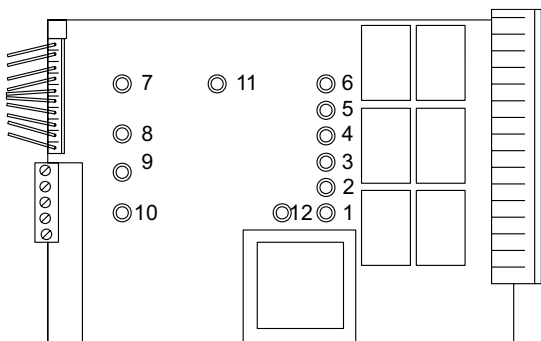
9.1 Operator Controls



- 1) Switch on/standby
- 2) Switch heating/cooling
- 3) Indicator (illuminates if HP voltage is on)
- 4) Setpoint potentiometer (return flow)
- 5) Pressure indicator for brine circuit
- 6) Pressure indicator for heating circuit
- 7) Temperature indicator for heating circuit

Switch (1) switches the heat pump to ready (I) or to standby mode (O).

The heat circulating pump operates continuously in the switch position (I). There is a 10-minute delay when switching from heating to cooling operation and vice versa.



- 1) On = Compressor running
- 2) On = Brine circulating pump running
- 3) On = Reversing valve set to "Cooling"
Off = Reversing valve set to "Heating"
- 4) On = Heat circulating pump running
- 5) On = Output of heat generator 2 - off
- 6) On = Frost protection request - HP heating
Off = Frost protection request - off
- 7) On = Low-pressure controller in working order
- 8) Not used
- 9) Not used
- 10) Not used
- 11) Flashes during operation
- 12) Flashes in the case of a fault

9.2 Heating Function

Start the heat pump by moving the switch (1) to the on position (I). Preselect heating operation by moving the switch (2) to the heating position (☀). Turn the rotary knob (4) to set the desired return flow temperature. The potentiometer can be used to request a temperature in the range between a min. of 20 °C and a max. of 55 °C. The actual temperature can be read from the indicator (3) on the control panel. Once the set temperature is reached, the heat pump switches off. The heat pump switches on again when the return flow temperature falls to 4 Kelvin below the set value. It is not possible to re-start the heat pump until after a minimum pause time of 5 minutes. If the flow temperature is higher than 60 °C or the brine temperature is too low, the heat pump switches off.

9.3 Cooling Function

Start the heat pump by moving the switch (1) to the on position (I). Preselect cooling operation by moving the switch (2) to the cooling position (❄). Turn the rotary knob (4) to set the desired return flow temperature. The potentiometer can be used to request a temperature in the range between a min. of 12 °C and a max. of 25 °C. Once the set temperature is reached, the heat pump switches off. The heat pump switches on again when the return flow temperature rises to 4 Kelvin above the set value. It is not possible to re-start the heat pump until after a minimum period of 5 minutes. If the flow temperature is under 7 °C, the heat pump switches off.

To prevent condensation from forming on the system's cooling surfaces, we recommend installing dew point monitors at vulnerable points in the cooling distribution system. Connect them to the terminal X1 (1,2). If condensation then forms, the cooling of the system is interrupted.

9.4 Hot Water Function

This heat pump can also be used to heat hot water.

Hot water preparation is requested via the terminal "X1-9" using an external thermostat to be provided by the customer. This thermostat simultaneously switches on the phase (L) to terminal "X1-9" and the hot water circulating pump.

A suitable thermostat is available as an accessory.

Hot water preparation can also be requested even if neither heating and cooling have been requested.

If a request is pending, the heat circulating pump is switched off by the control system. The cooling operation is interrupted and the setpoint is raised to the maximum.

The external thermostat determines the hot water setpoint temperature.

Set the temperature to approx. 10 K under the maximum flow temperature of the heat pump to prevent the high-pressure controller from initiating a switch-off.

When the preparation of hot water is concluded, the system will continue working in the same function as before the request.

10 Maintenance and Cleaning

10.1 Maintenance

The heat pump is maintenance-free. To prevent faults due to sediment in the heat exchangers, care must be taken to ensure that no impurities can enter either the heat source system or the heating system. In the event that operating malfunctions due to contamination occur nevertheless, the system should be cleaned as described below.

10.2 Cleaning of Heating Side

The ingress of oxygen into the heating water circuit, in particular if it contains steel components, may result in the formation of oxidation products (rust). These can enter the heating system via valves, circulating pumps or plastic tubing. It is therefore important - in particular with respect to the piping of underfloor heating systems - that the installation be executed in a diffusion-proof manner.

⚠ ATTENTION!

To prevent the accumulation of deposits (e.g. rust) we recommend using a suitable corrosion protection system.

In the case of severe contamination leading to a reduction in the performance of the condenser in the heat pump, the system must be cleaned by a heating technician.

Based on current knowledge, we recommend cleaning with a 5% phosphoric acid solution or, in the case that cleaning needs to be performed more frequently, with a 5% formic acid solution.

In either case, the cleaning fluid should be at room temperature. It is recommended that the heat exchanger be cleaned in the direction opposite to the normal flow direction.

To prevent acidic cleaning agents from entering the circuit of the heating installation we recommend that the flushing device be fitted directly to the supply and return lines of the condenser of the heat pump.

Thereafter the system must be thoroughly flushed using appropriate neutralising agents in order to prevent any damage caused by cleaning agent residues that may still be present in the system.

All acids must be used with great care, all relevant regulations of the employers' liability insurance associations must be adhered to.

If in doubt, contact the manufacturer of the chemicals!

10.3 Cleaning the Heat Source System

⚠ ATTENTION!

Insert a dirt trap in the heat source inlet of the heat pump to protect the evaporator against the ingress of impurities.

Clean the dirt trap's filter screen one day after start-up and subsequently at weekly intervals. If no more signs of contamination are evident, the filter can be removed to reduce pressure drops.

11 Faults and Troubleshooting

This heat pump is a quality product and is designed for trouble-free operation. In the event that a fault should occur, you should be able to correct the problem yourself in most cases.

If you cannot correct the fault yourself, please contact your after-sales service technician.

⚠ ATTENTION!

Any work on the heat pump may only be performed by authorised and qualified after-sales service technicians.

⚠ ATTENTION!

Disconnect all electrical circuits from the power source prior to opening the device.

12 Decommissioning/ Disposal

Before removing the heat pump, disconnect it from the power source and close all valves. Observe all environmentally-relevant requirements regarding the recovery, recycling and disposal of materials and components in accordance with all applicable standards. Particular attention should be paid to the proper disposal of refrigerants and refrigeration oils.

13 Device Information

Device information for brine-to-water heat pumps (heating only)

			SI 8MR	SI 10MR	SI 12TR	SI 14TR	SI 16TR	SI 20TR
1	Type and order code							
2	Design							
2.1	Model		Reversible	Reversible	Reversible	Reversible	Reversible	Reversible
2.2	Degree of protection according to EN 60 529		IP20	IP20	IP20	IP20	IP20	IP20
2.3	Installation location		Indoors	Indoors	Indoors	Indoors	Indoors	Indoors
3	Performance data							
3.1	Operating temperature limits:							
	Heating water flow °C		Up to 60	Up to 60	Up to 60	Up to 60	Up to 60	Up to 60
	Cooling, flow °C		+7 to +20	+7 to +20	+7 to +20	+7 to +20	+7 to +20	+7 to +20
	Brine (heat source, heating) °C		-5 to +25	-5 to +25	-5 to +25	-5 to +25	-5 to +25	-5 to +25
	Brine (heat sink, cooling) °C		+5 to +25	+5 to +25	+5 to +25	+5 to +25	+5 to +25	+5 to +25
	Antifreeze		Monoethyl- ene glycol	Monoethyl- ene glycol	Monoethyl- ene glycol	Monoethyl- ene glycol	Monoethyl- ene glycol	Monoethyl- ene glycol
	Minimum brine concentration (-13 °C freezing temperature)		25%	25%	25%	25%	25%	25%
3.2	Temperature spread of heating water (flow/return flow) at B0 / W35K		10.6	9.9	9.9	9.4	9.6	10.7
3.3	Heat output / COP							
	at B-5 / W55 ¹	kW / ---	7.5 / 2.0	9.8 / 2.1	9.8 / 2.1	12.2 / 2.3	14.1 / 2.4	18.7 / 2.5
	at B0 / W50 ¹	kW / ---	8.8 / 2.8	11.3 / 2.9	11.3 / 2.9	13.5 / 2.9	16.3 / 3.2	20.4 / 3.1
	at B0 / W35 ¹	kW / ---	9.3 / 4.0	11.6 / 4.1	11.6 / 4.1	13.7 / 4.0	16.4 / 4.0	20.0 / 4.2
3.4	Cooling capacity / COP							
	at B20 / W8	kW / ---	9.9 / 4.6	11.4 / 4.6	11.4 / 4.6	14.1 / 5.0	17.3 / 4.9	21.5 / 4.9
	at B20 / W18	kW / ---	12.0 / 5.4	14.1 / 5.3	14.1 / 5.3	17.4 / 5.9	21.5 / 5.9	26.0 / 5.7
	at B10 / W8	kW / ---	9.9 / 5.6	11.6 / 5.7	11.6 / 5.7	14.7 / 6.4	18.0 / 6.4	21.9 / 5.9
	at B10 / W18	kW / ---	12.4 / 6.7	14.1 / 6.5	14.1 / 6.5	17.4 / 7.1	21.5 / 7.3	27.7 / 7.1
3.5	Sound power level	dB(A)	54	55	56	56	56	56
3.6	Heating water flow with an internal pressure differential of m³/h / Pa		0.75/ 2,300	1.0 / 4,100	1.0 / 4,100	1.3 / 4,850	1.5 / 4,000	1.6 / 3,400
3.7	Brine throughput with an internal pressure differential (heat source) of m³/h / Pa		2.3 / 25,000	3.0 / 24,000	3.0 / 24,000	3.5 / 17,900	3.8 / 18,400	3.5 / 13,900
3.8	Refrigerant; total filling weight	type / kg	R407C / 1.3	R407C / 1.5	R407C / 1.4	R407C / 2.1	R407C / 2.4	R407C / 3.2
4	Dimensions, connections and weight							
4.1	Device dimensions without connections ²	H x W x L mm	1220 x 640 x 624	1220 x 640 x 624	1220 x 640 x 624	1220 x 640 x 624	1220 x 640 x 624	1220 x 640 x 624
4.2	Device connections to heating system	Inch	G 1" a	G 1" a	G 1" a	G 1" a	G 1" a	G 1" a
4.3	Device connections to heat source	Inch	G 1" a	G 1" a	G 1" a	G 1" a	G 1¼" external	G 1¼" external
4.4	Weight of the transportable unit(s) incl. packing	kg	162	163	164	166	172	237
5	Electrical Connection							
5.1	Nominal voltage; fuse protection	V / A	230 / 20	230 / 25	400 / 16	400 / 16	400 / 16	400 / 16
5.2	Nominal power consumption ¹ B0 W35	kW	2.3	2.8	2.8	3.41	4.1	4.8
5.3	Starting current with soft starter	A	38	38	26	26	30	30
5.4	Nominal current B0 W35 / cos φ	A / ---	12.5 / 0.8	15.2 / 0.8	4.8 / 0.8	6.2 / 0.8	7.4 / 0.8	11.0 / 0.8
6	Complies with the European safety regulations		3	3	3	3	3	3
7	Additional model features							
7.1	Water in device protected against freezing ⁴		No	No	No	No	No	No
7.2	Performance levels		1	1	1	1	1	1
7.3	Controller internal/external		Internal	Internal	Internal	Internal	Internal	Internal

1. This data indicates the size and capacity of the system. For an analysis of the economic and energy efficiency of the system, both the bivalence point and the regulation should also be taken into consideration. The specified values, e.g. B10 / W55, have the following meaning: Heat source temperature 10 °C and heating water flow temperature 55 °C.

2. Note that additional space is required for pipe connections, operation and maintenance.

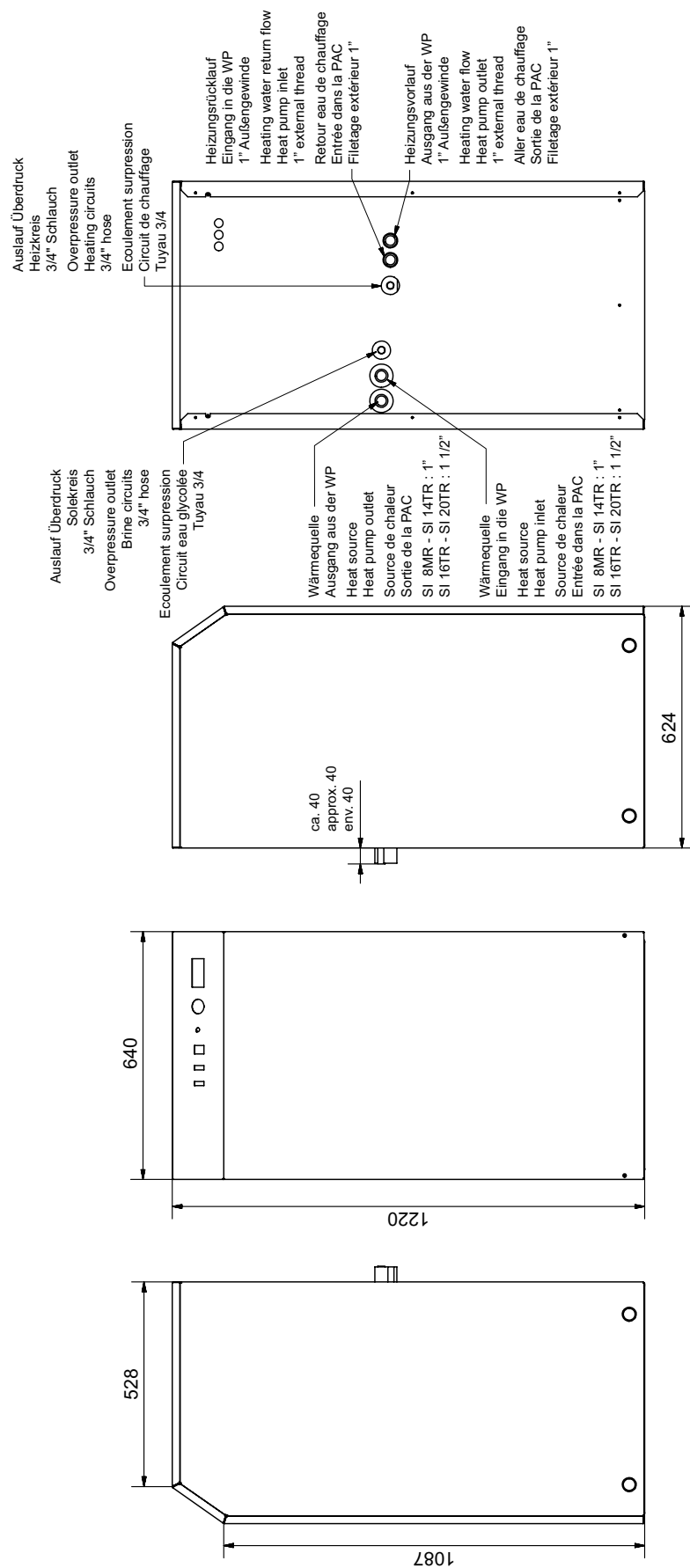
3. See CE declaration of conformity

4. The heat circulating pump and the heat pump controller must always be ready for operation.

Anhang / Appendix / Annexes

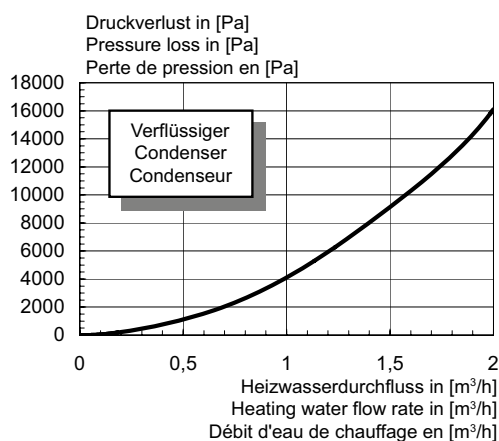
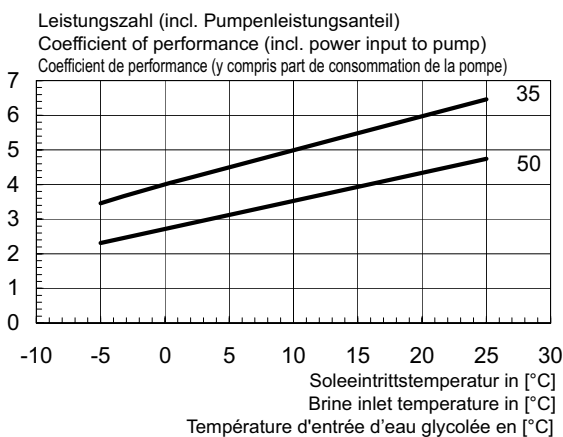
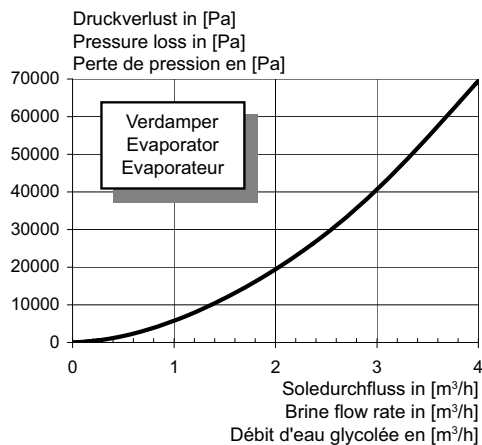
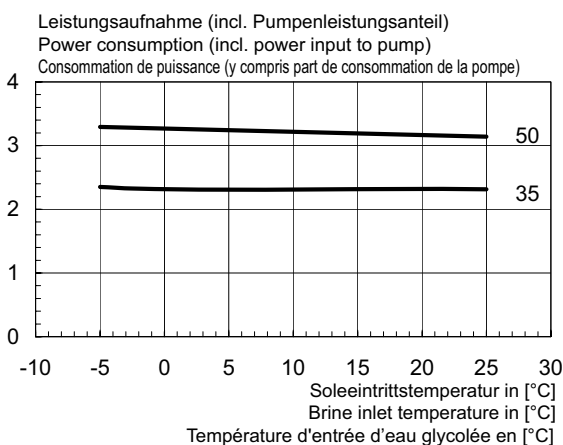
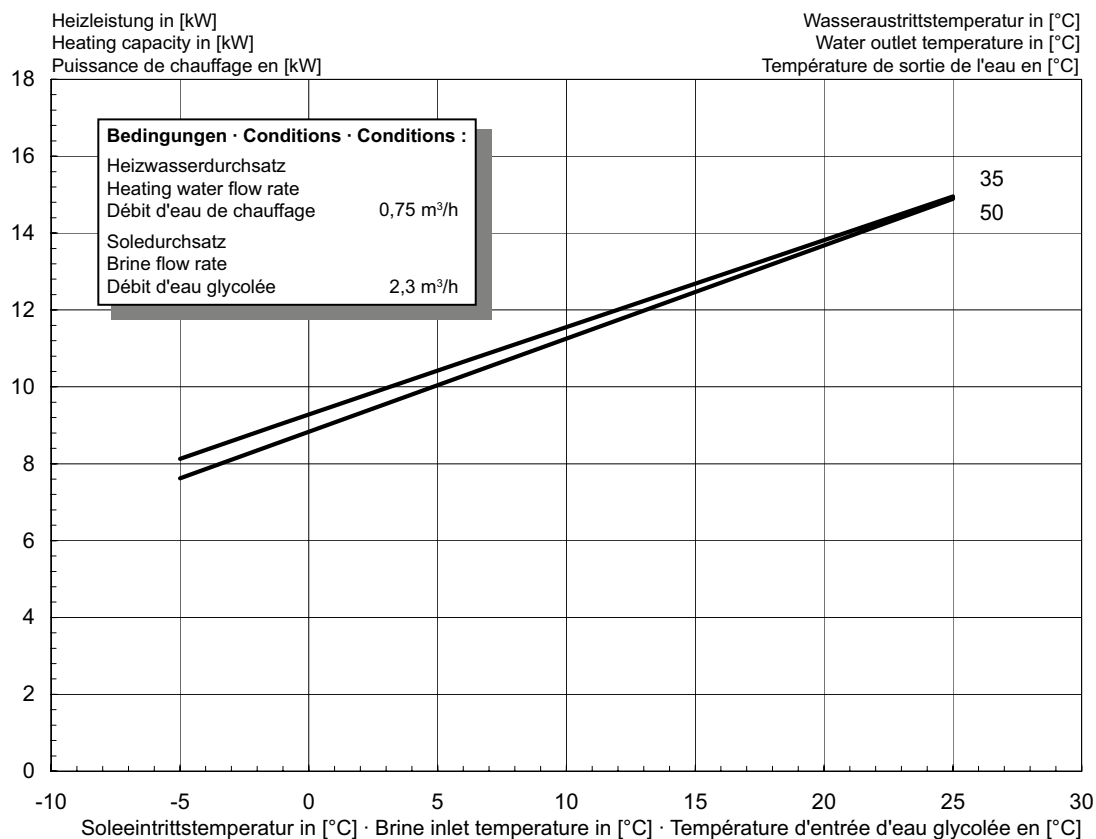
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1 Maßbild / Dimension drawing / Schéma coté

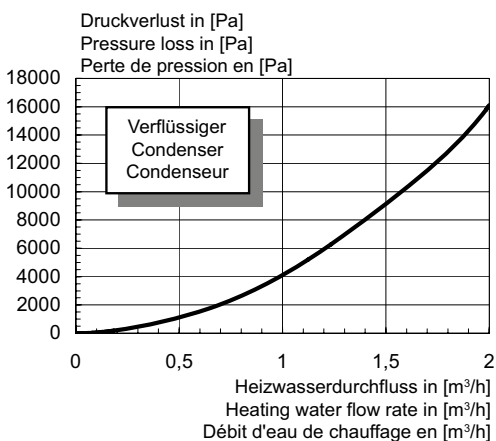
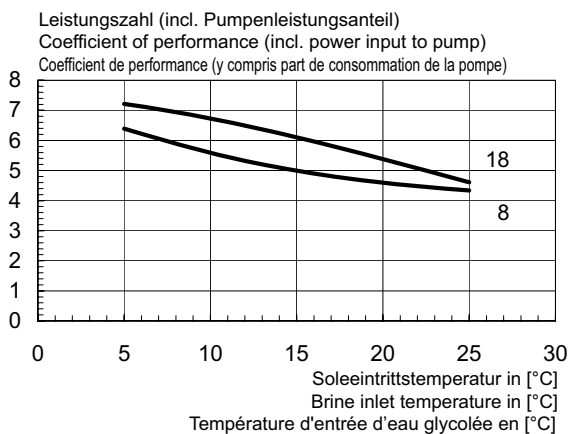
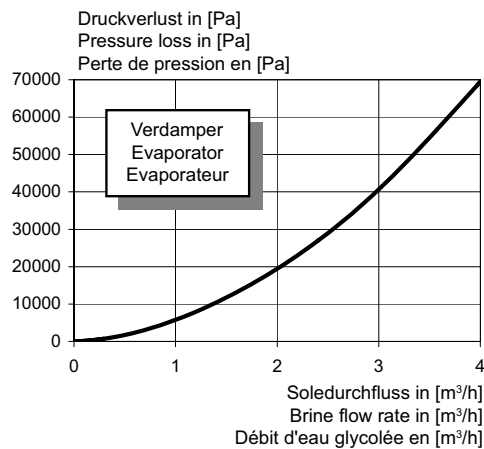
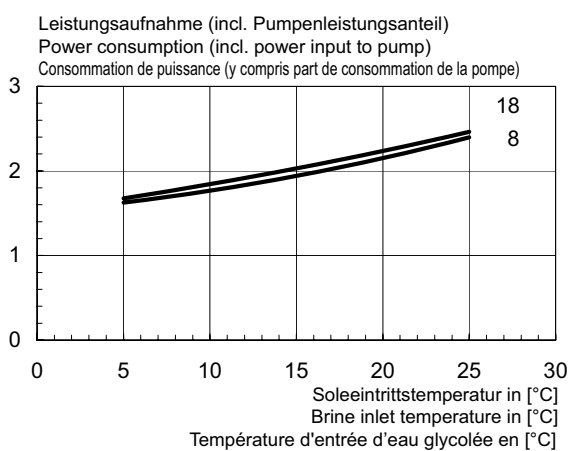
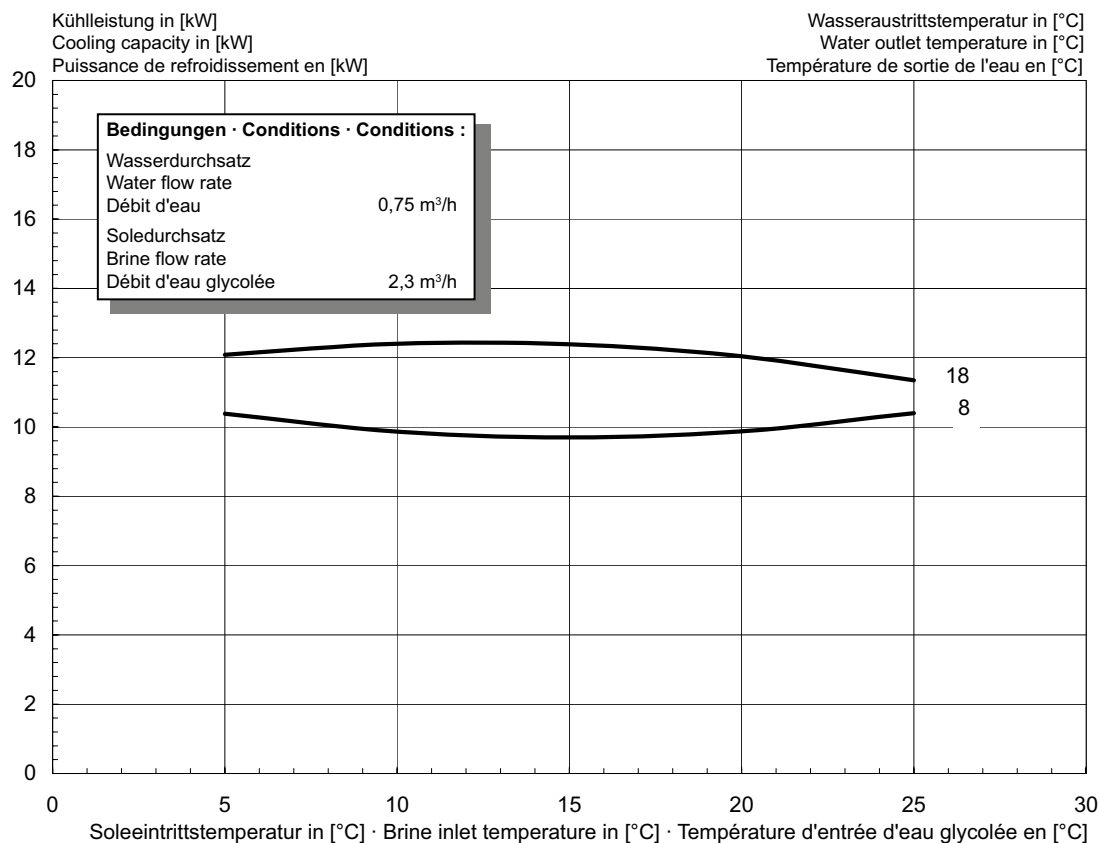


2 Diagramme / Diagrams / Diagrammes

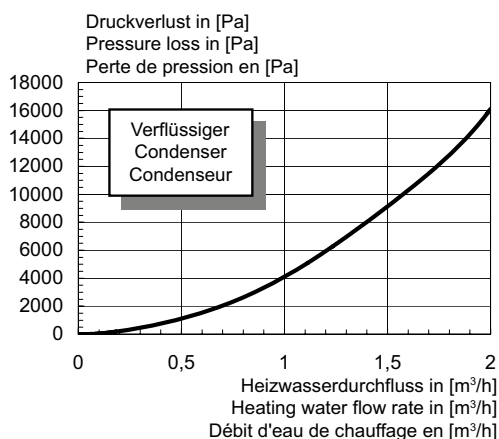
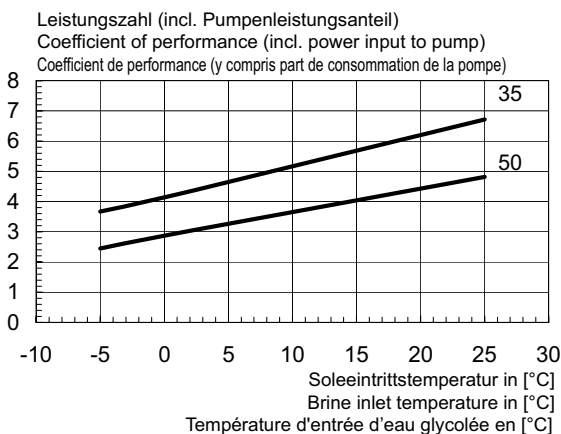
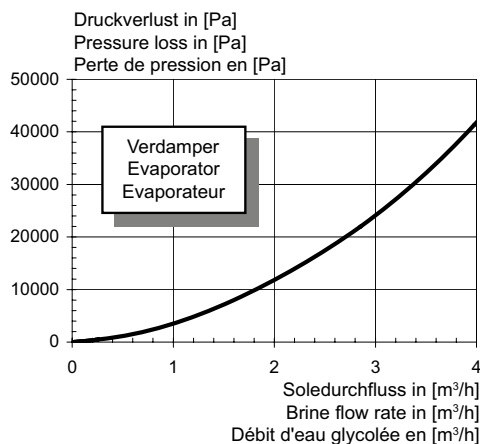
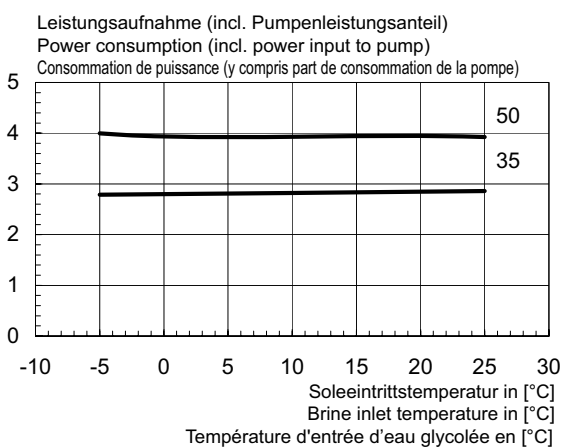
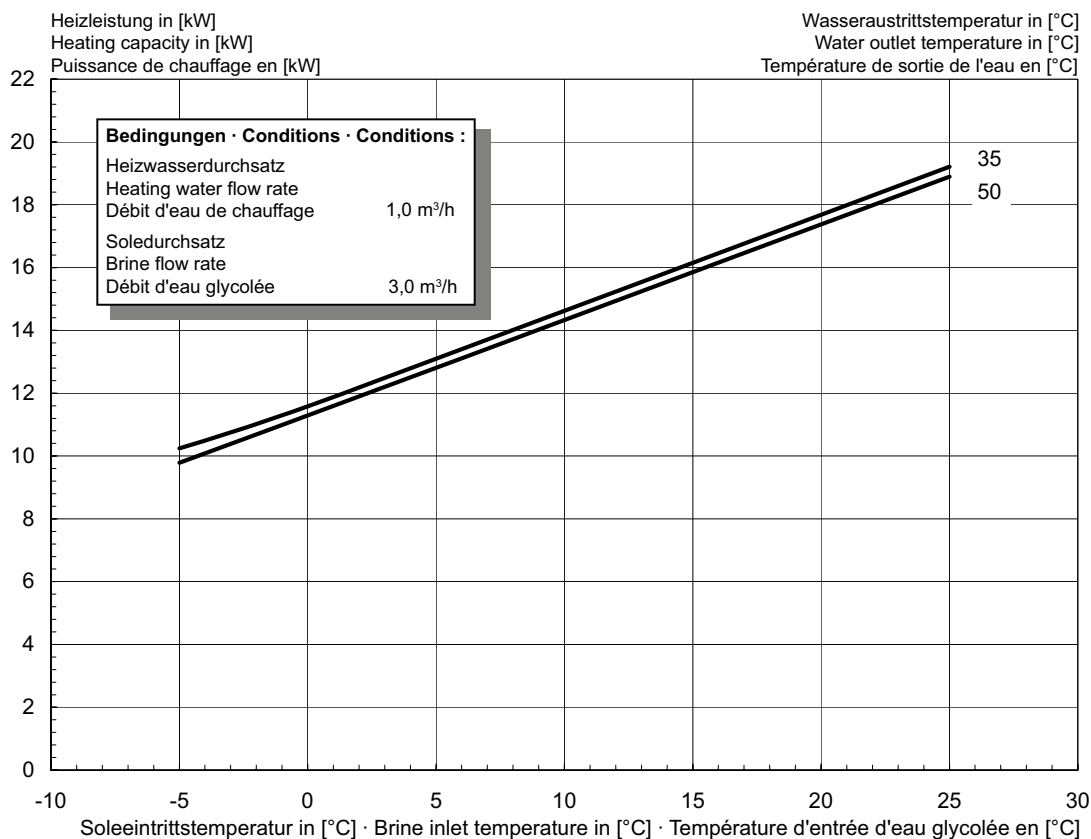
2.1 Heizbetrieb / Heating operation / Mode de chauffage SI 8MR



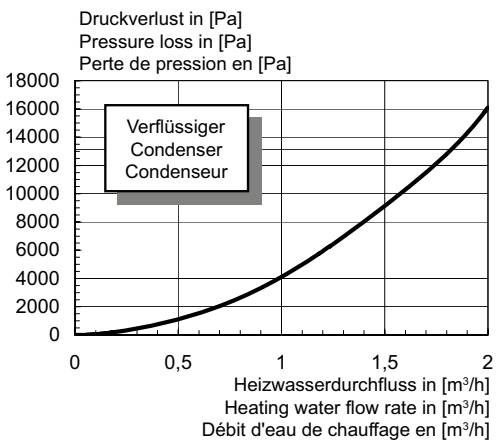
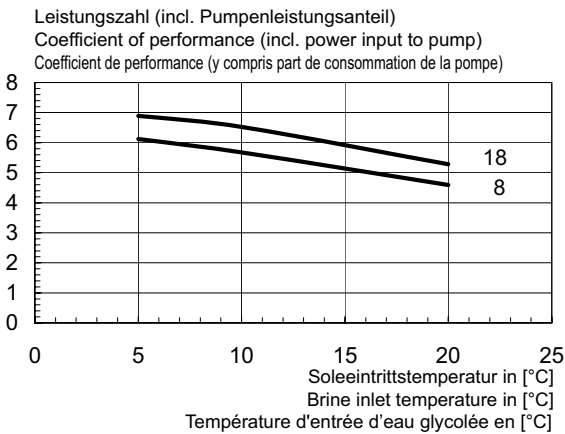
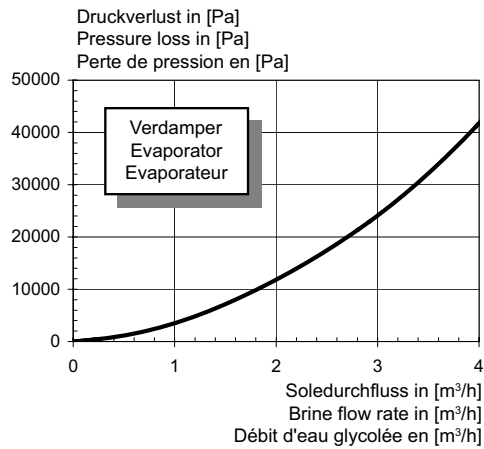
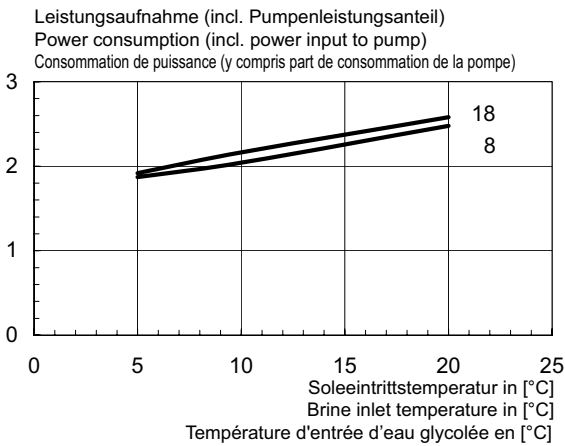
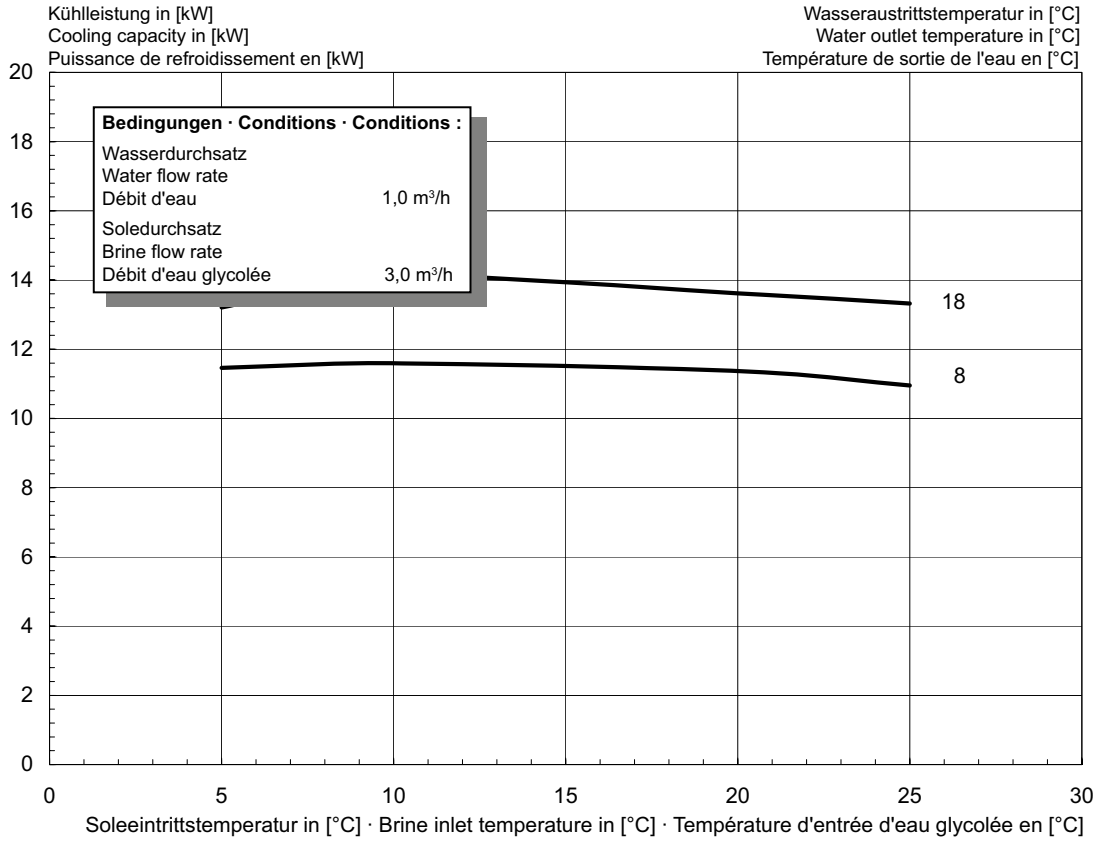
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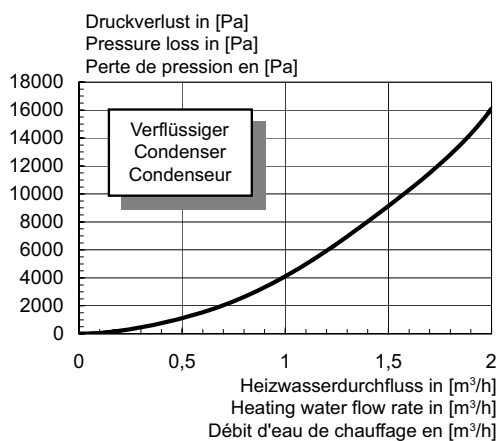
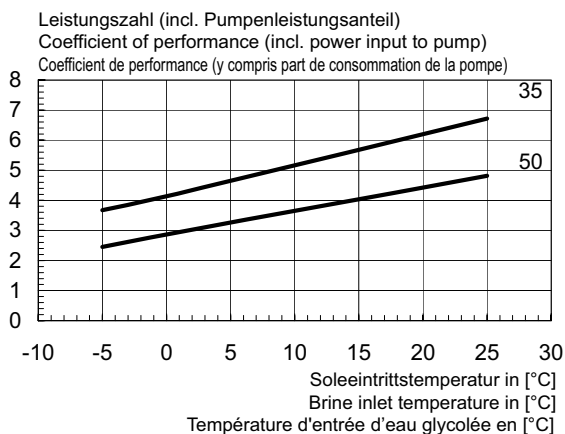
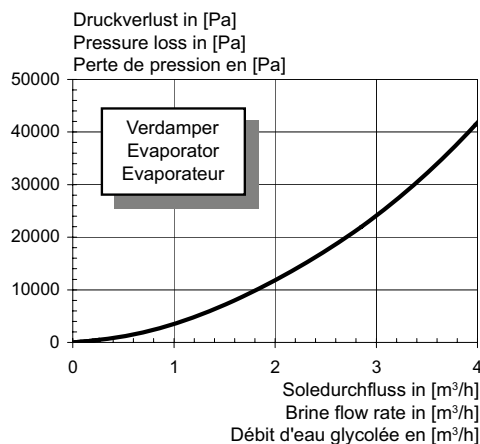
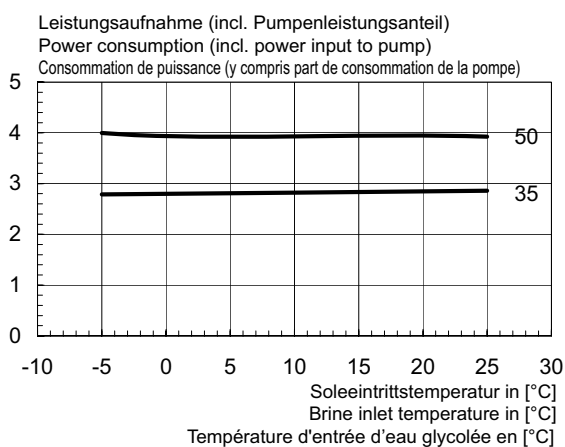
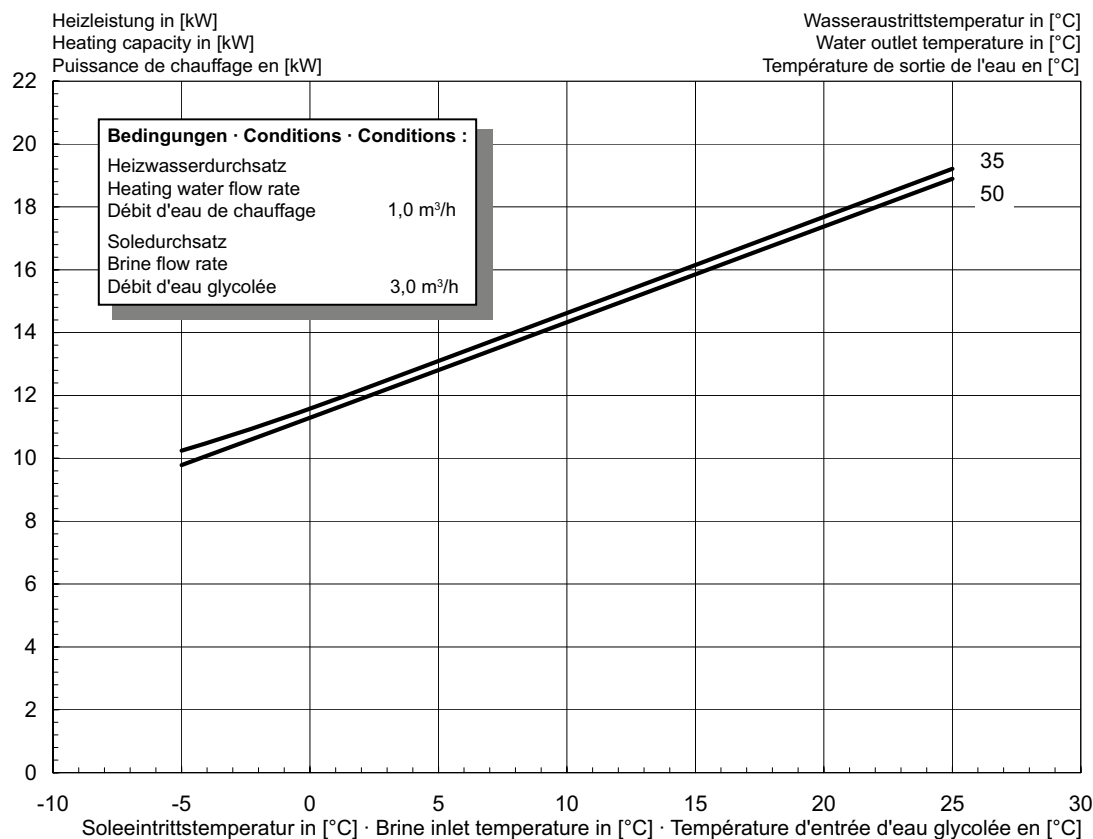
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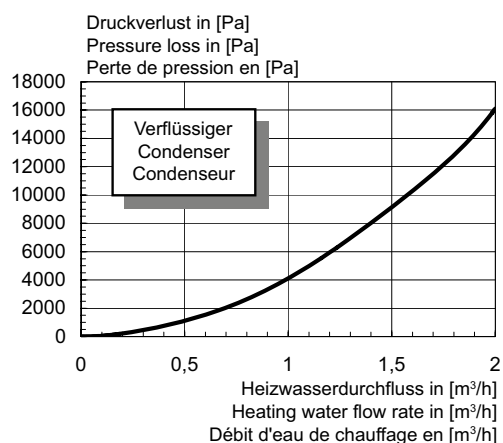
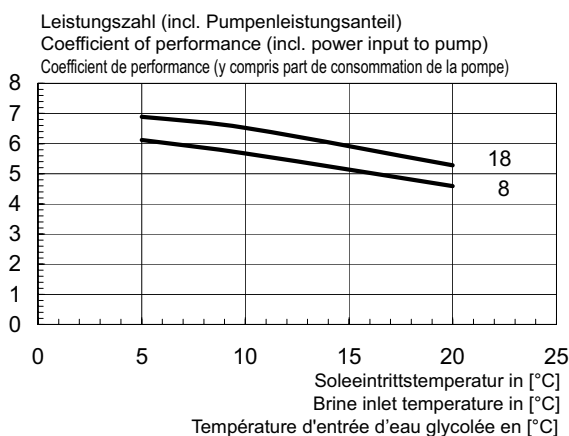
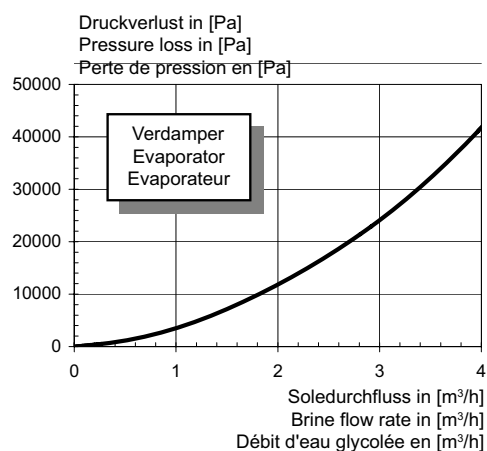
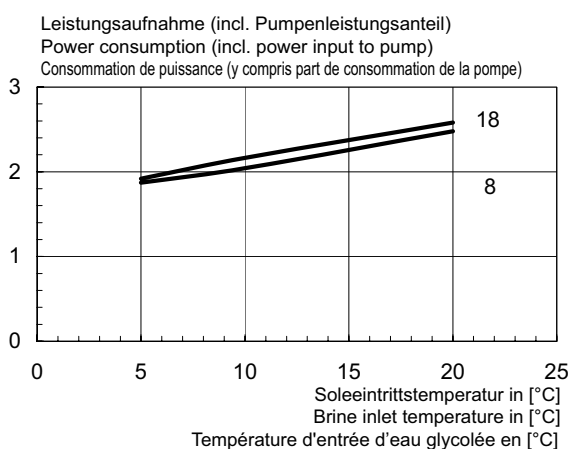
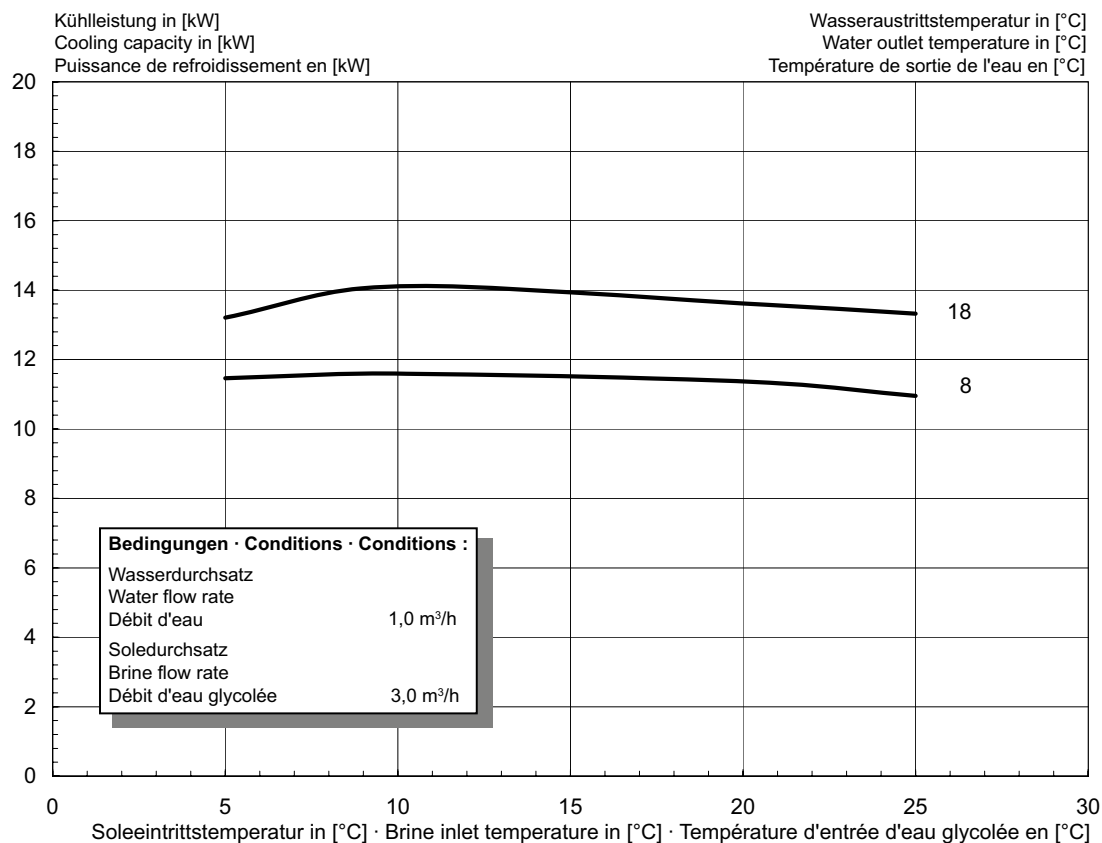
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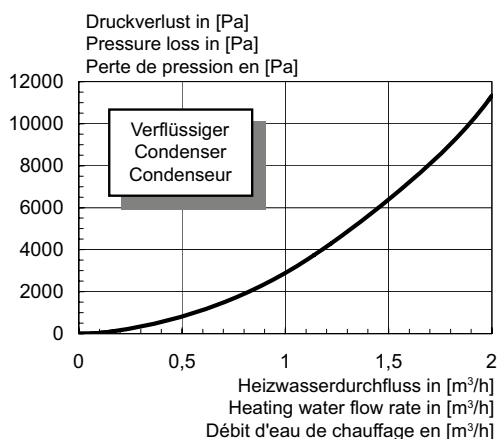
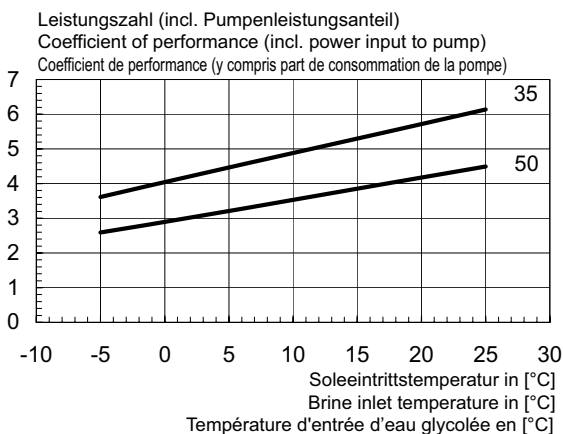
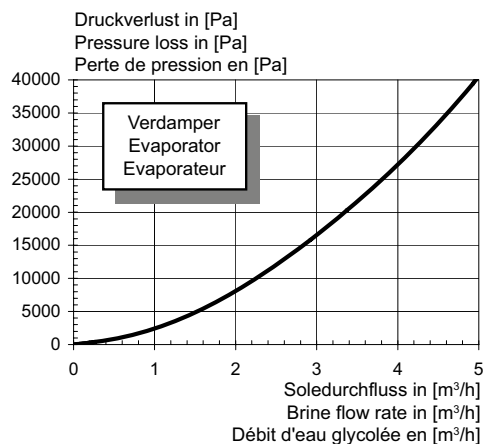
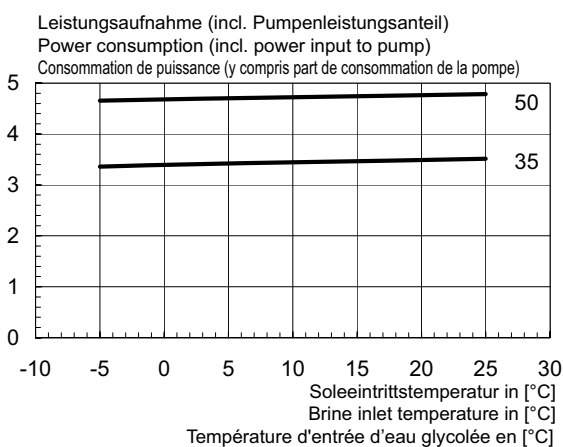
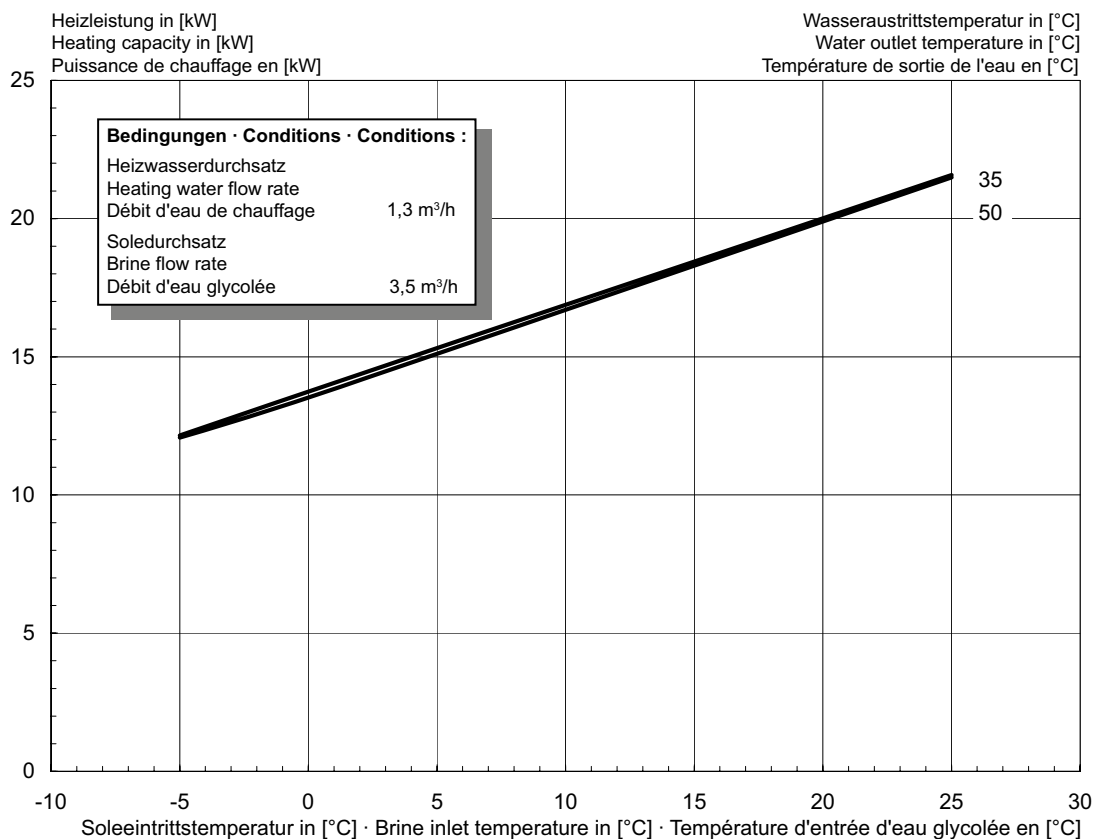
2.5 Heizbetrieb / Heating operation / Mode de chauffage SI 12TR



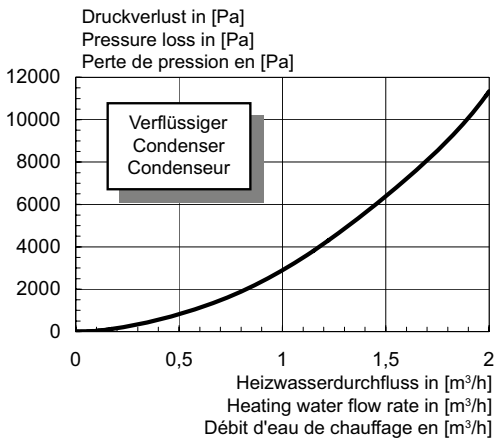
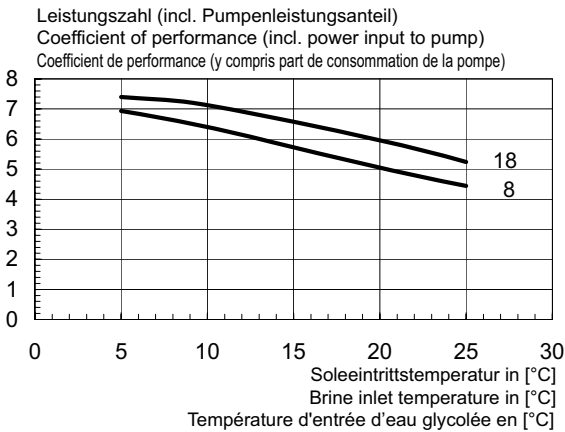
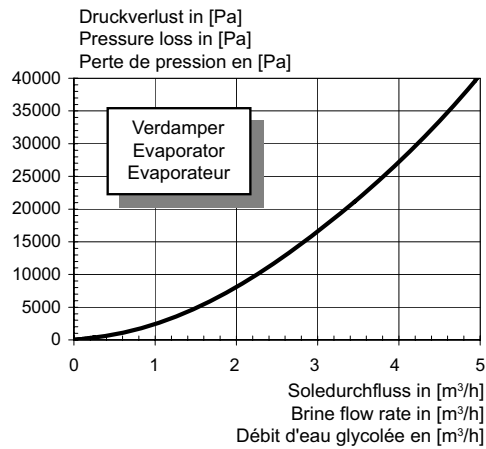
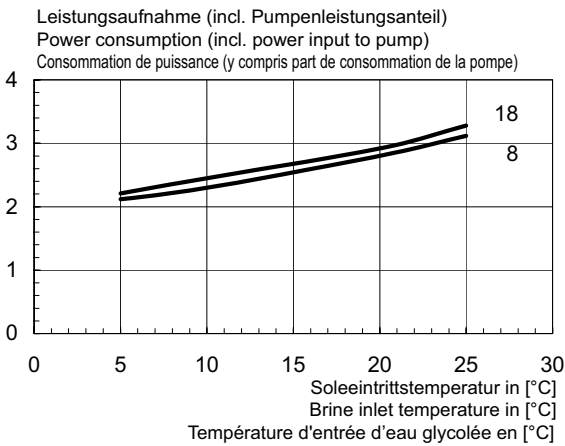
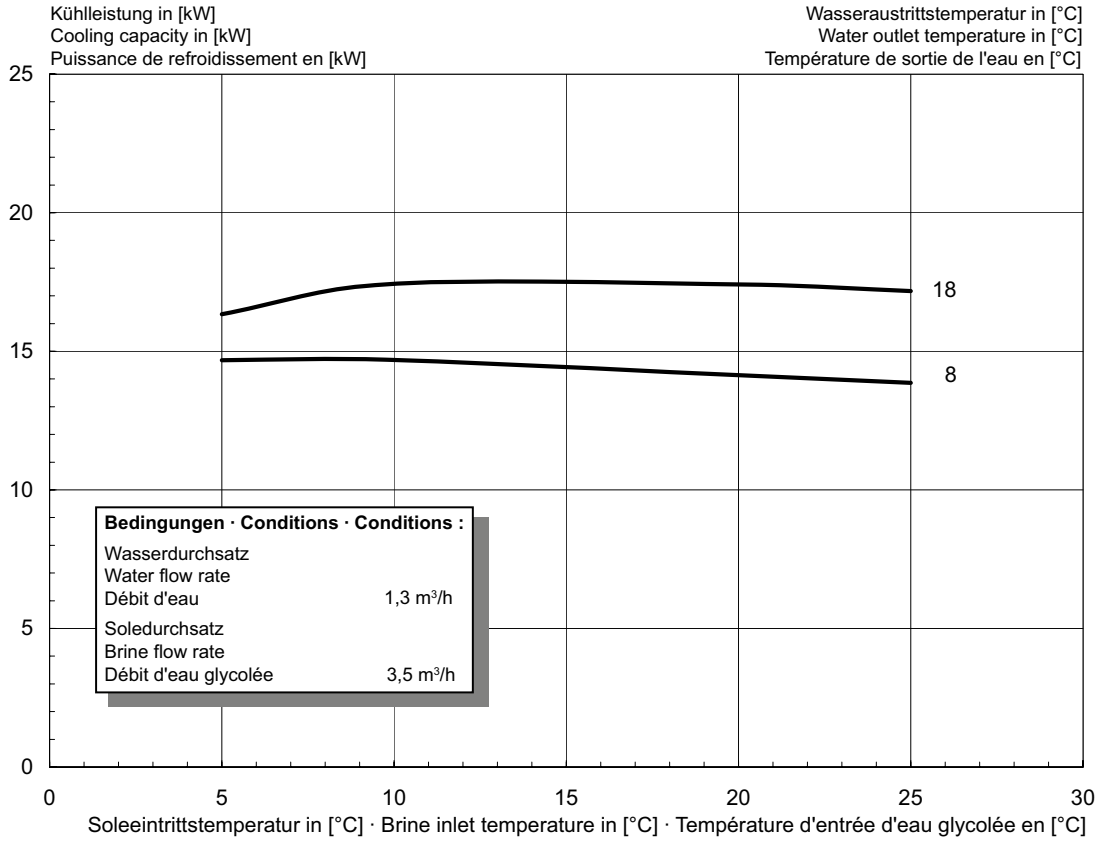
2.6 Kühlbetrieb / Cooling operation / Mode de refroidissement SI 12TR



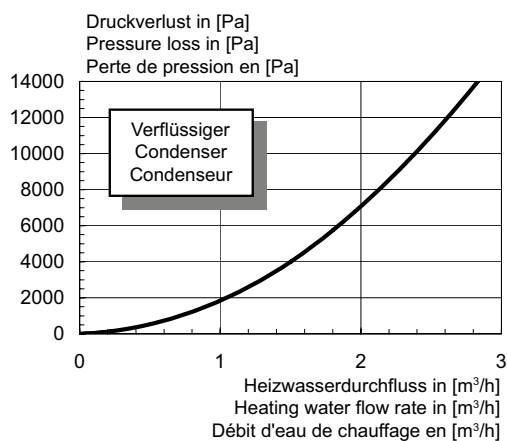
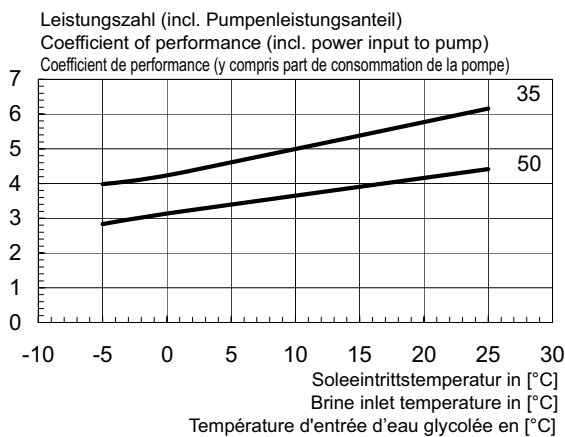
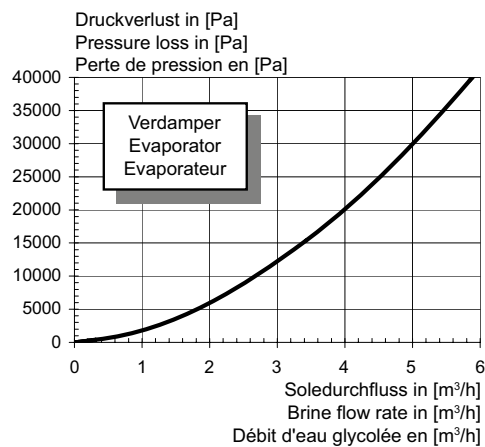
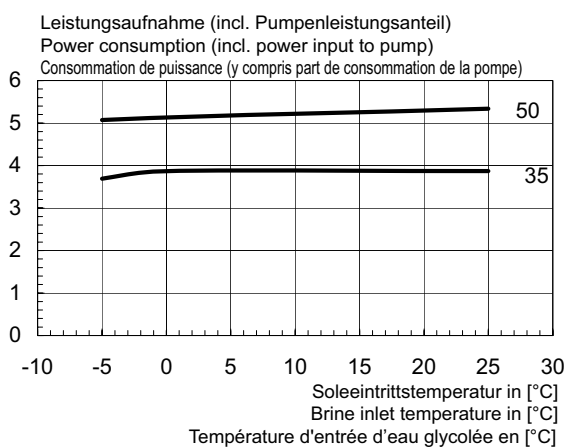
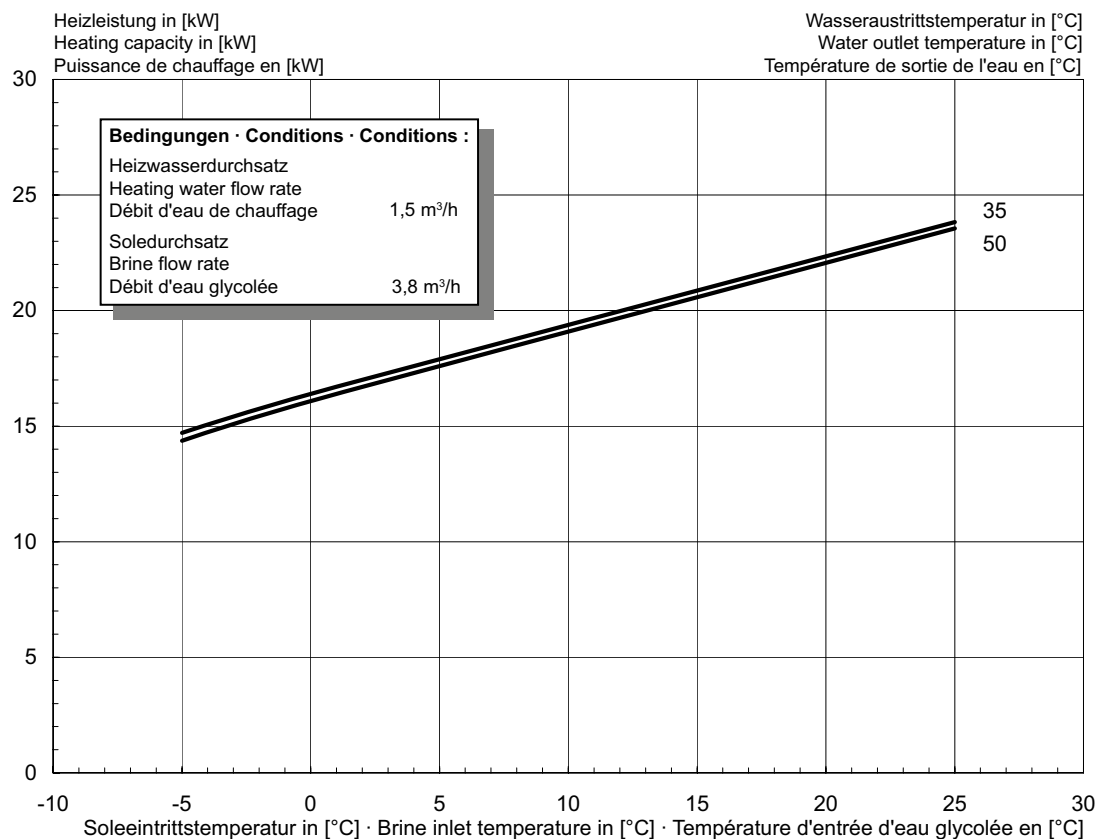
2.7 Heizbetrieb / Heating operation / Mode de chauffage SI 14TR



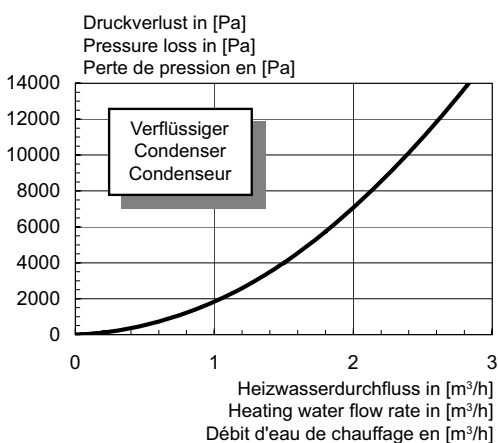
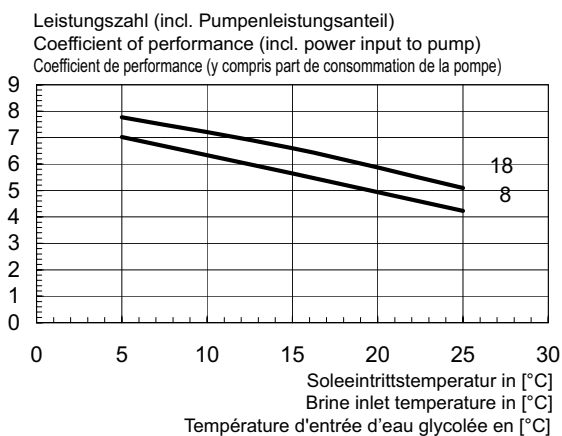
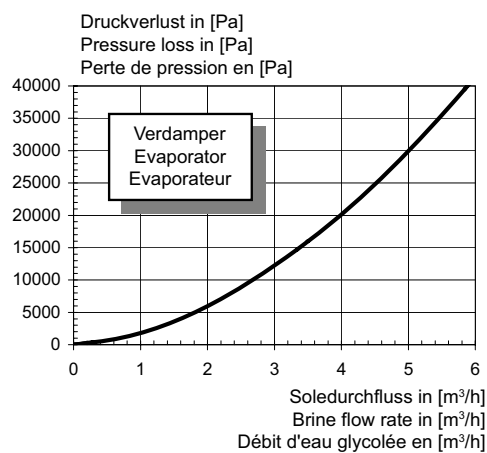
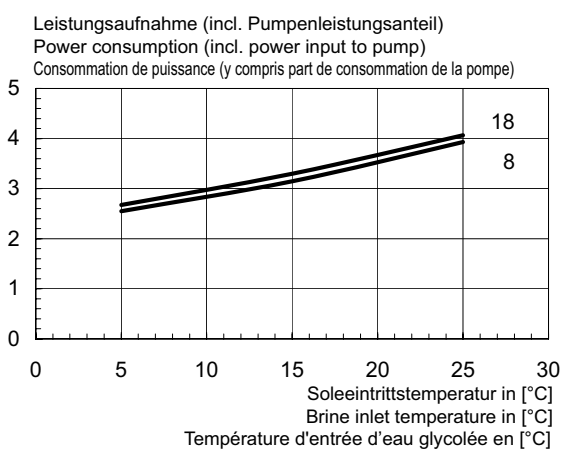
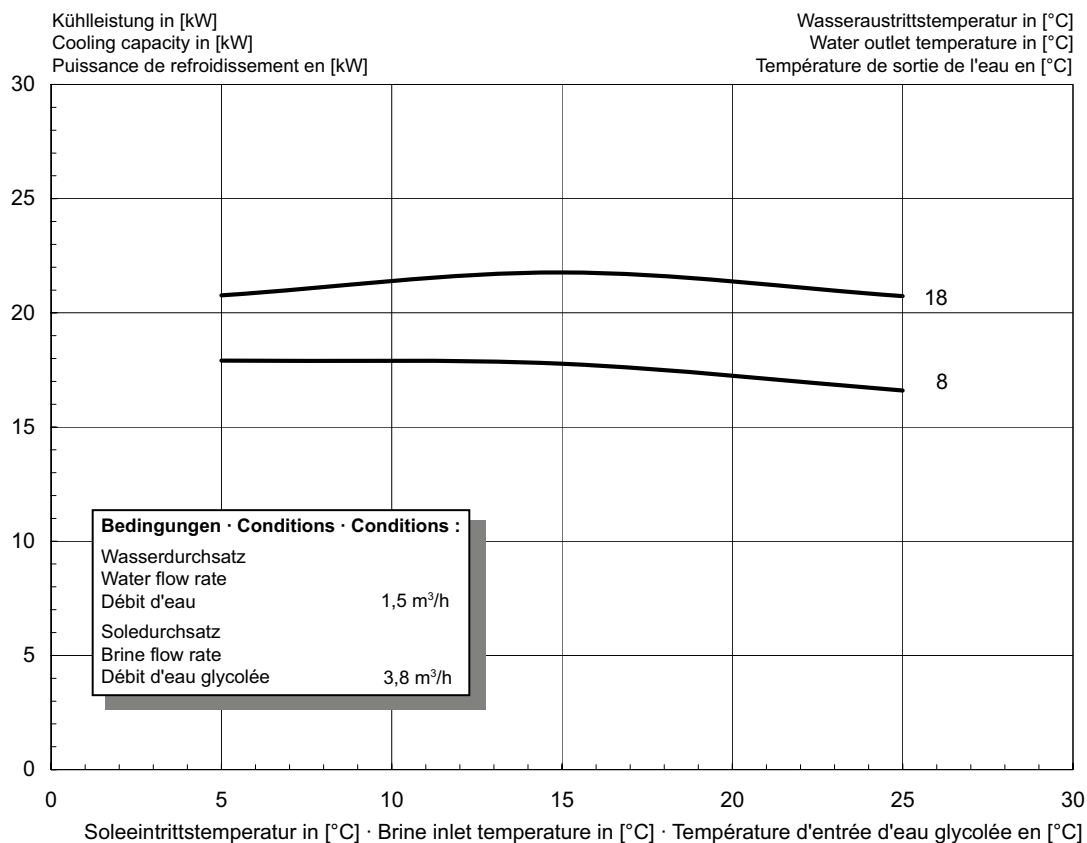
2.8 Kühlbetrieb / Cooling operation / Mode de refroidissement SI 14TR



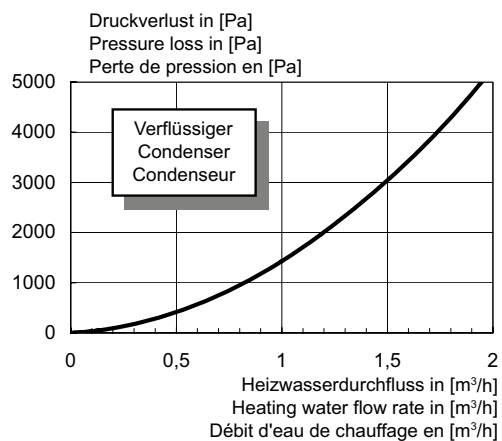
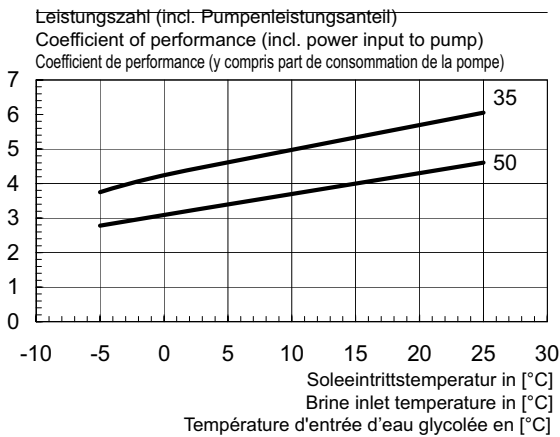
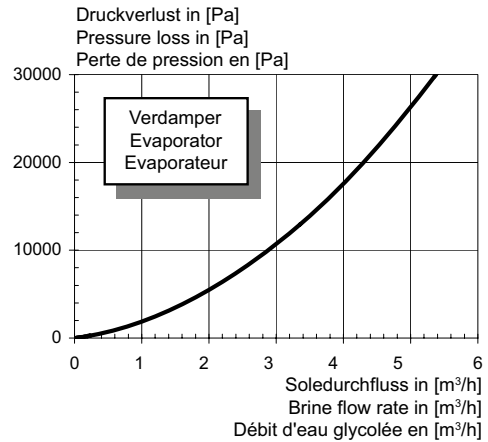
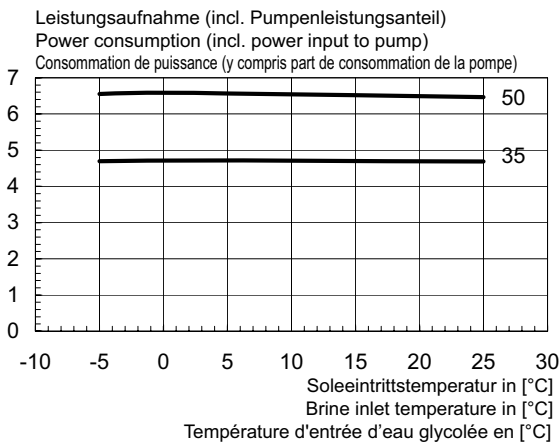
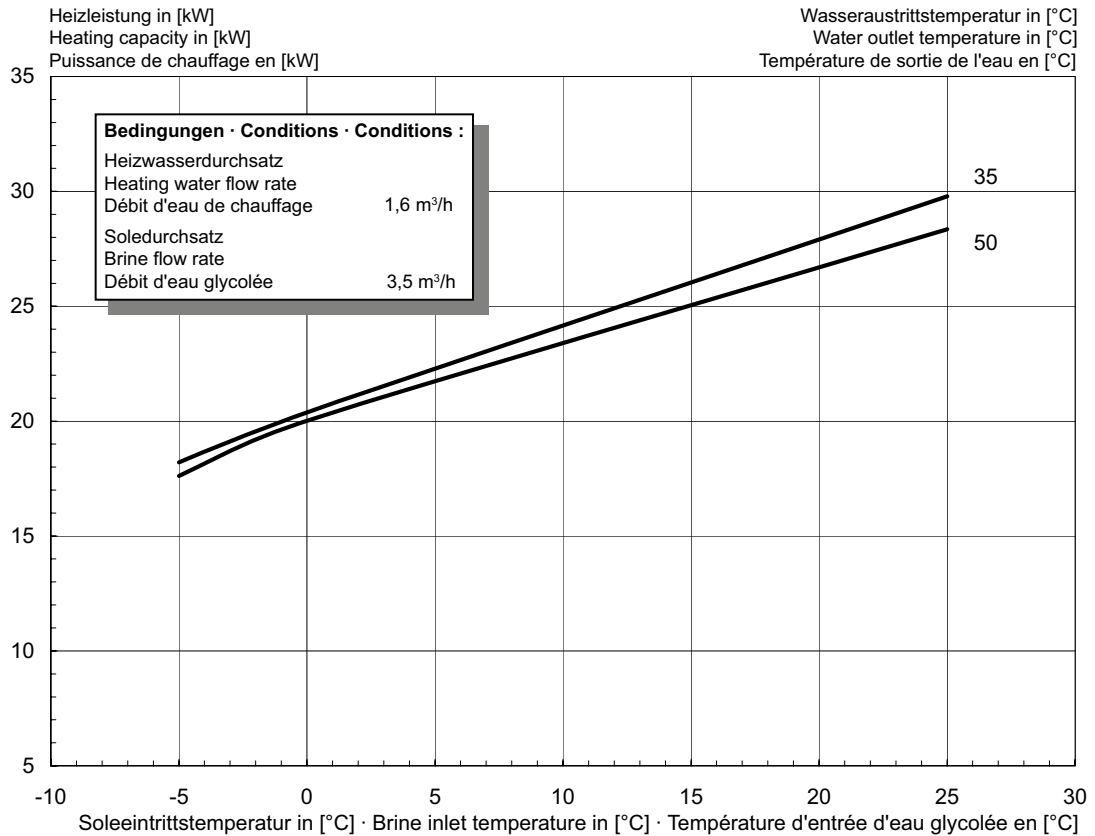
2.9 Heizbetrieb / Heating operation / Mode de chauffage SI 16TR



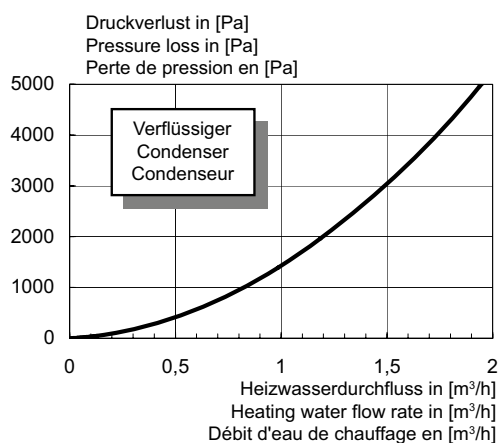
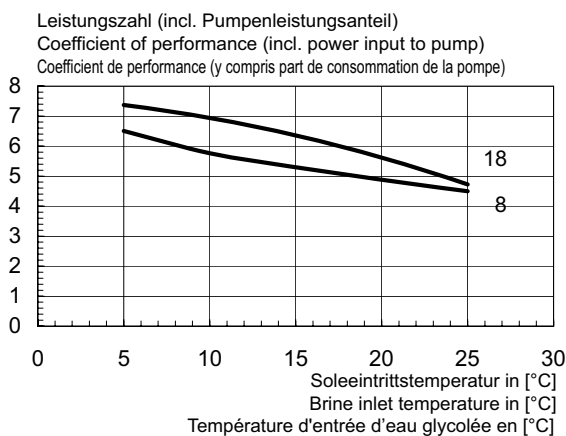
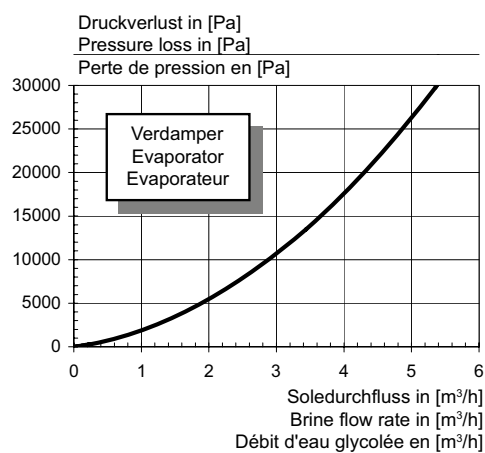
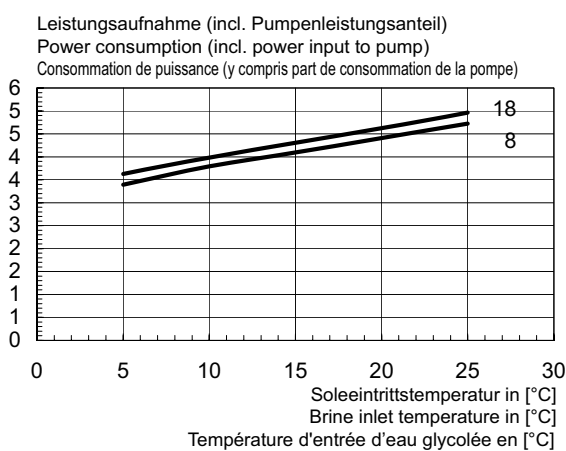
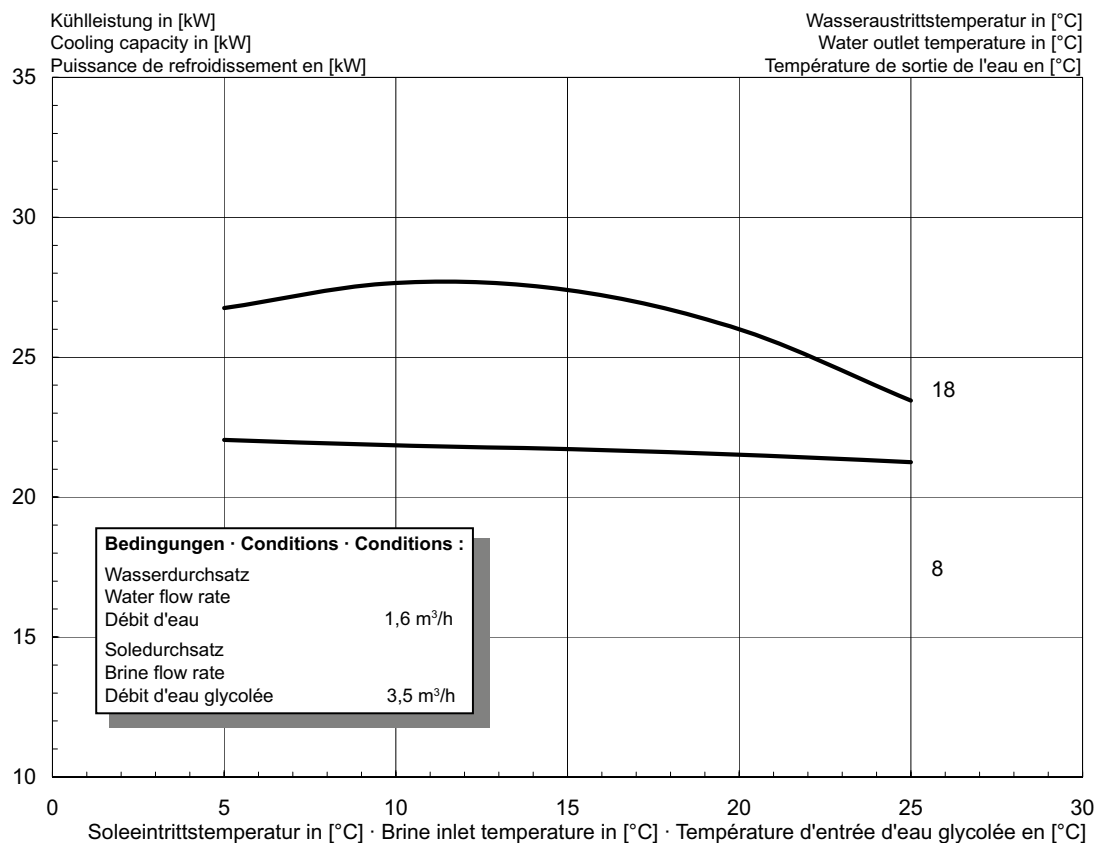
2.10 Kühlbetrieb / Cooling operation / Mode de refroidissement SI 16TR



2.11 Heizbetrieb / Heating operation / Mode de chauffage SI 20TR

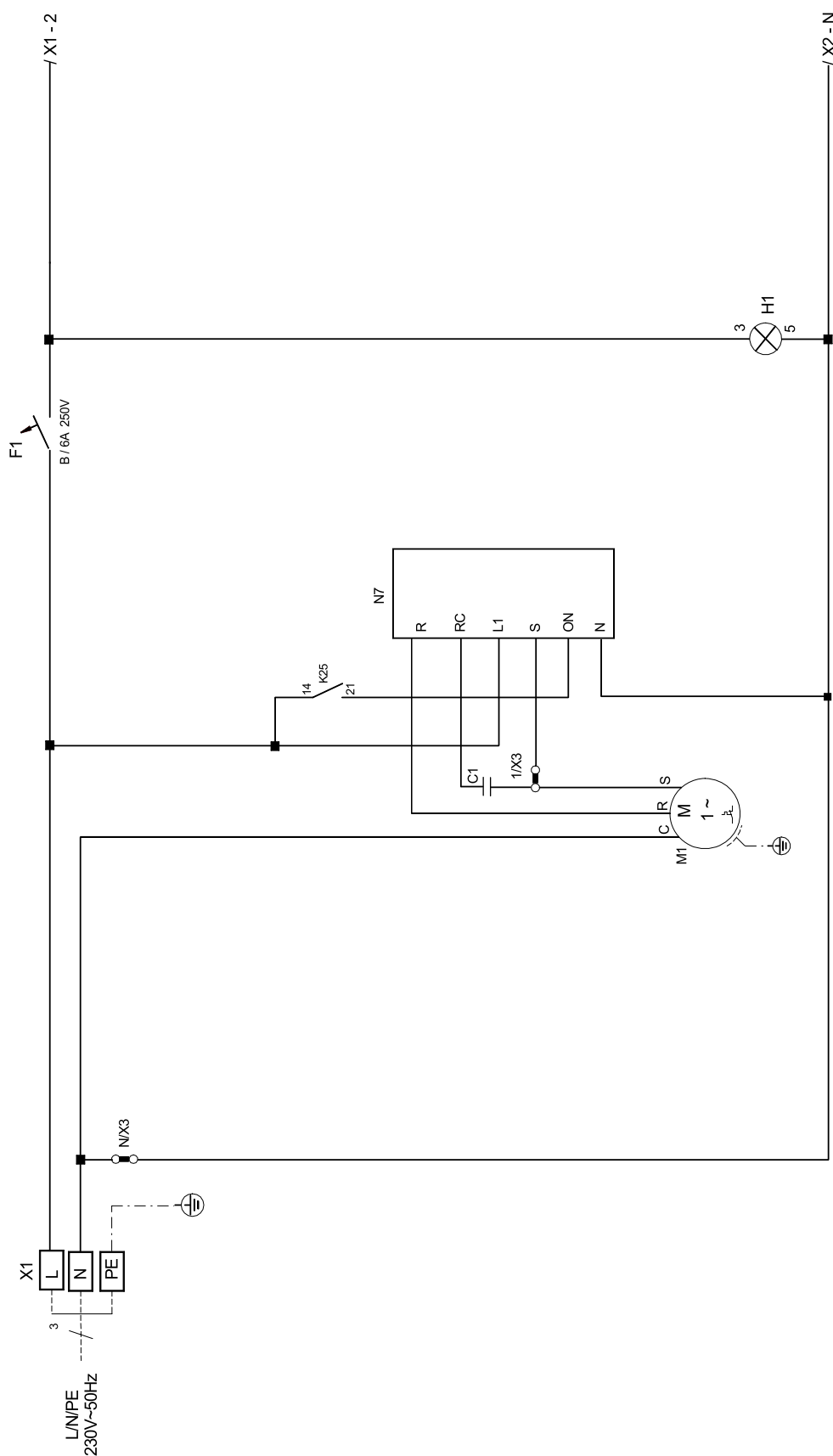


2.12 Kühlbetrieb / Cooling operation / Mode de refroidissement SI 20TR

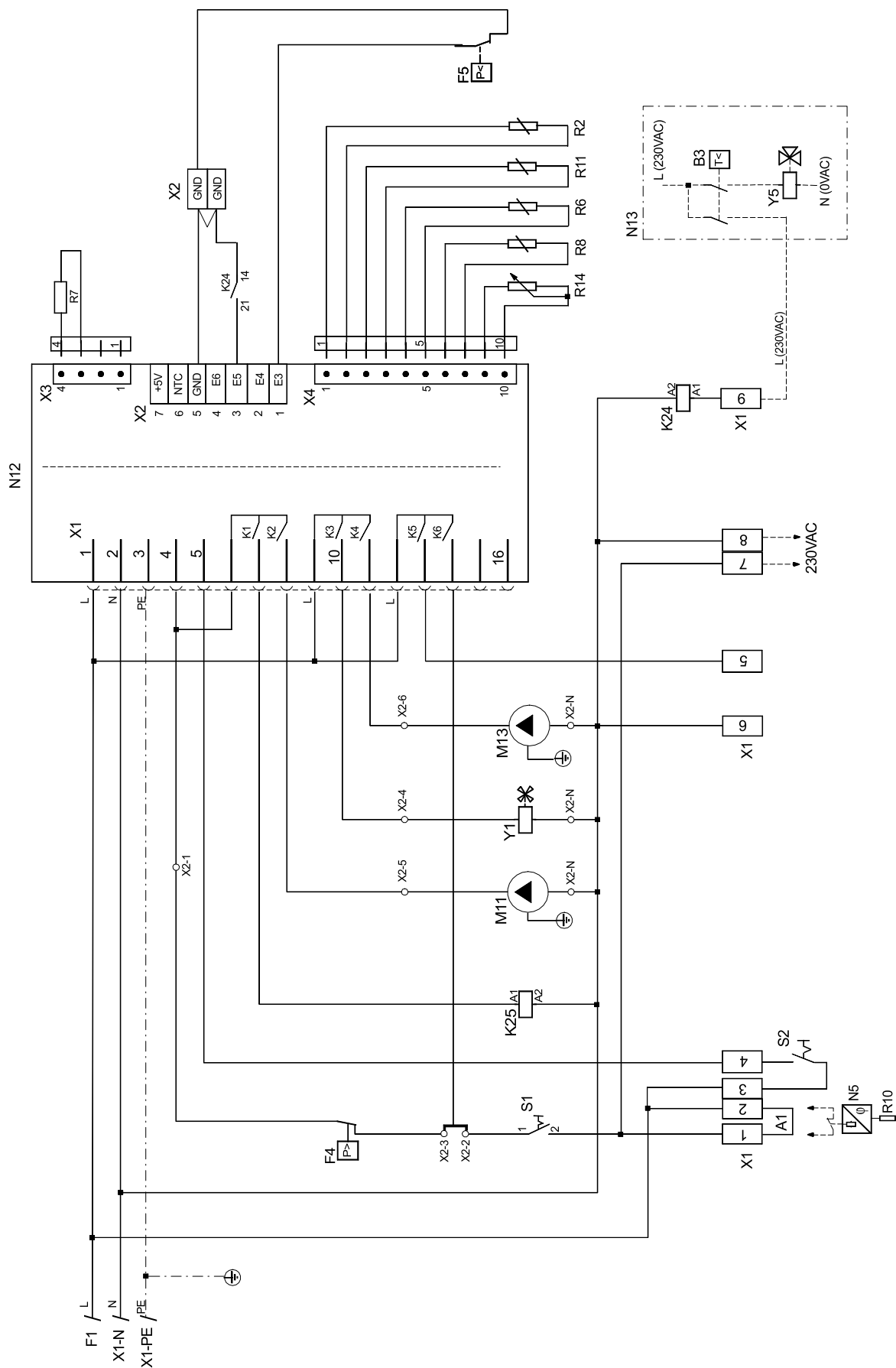


3 Stromlaufpläne / Circuit diagrams / Schémas électriques

3.1 Last / Load / Charge SI 8MR - SI 10MR



3.2 Steuerung / Control / Commande SI 8MR - SI 10MR

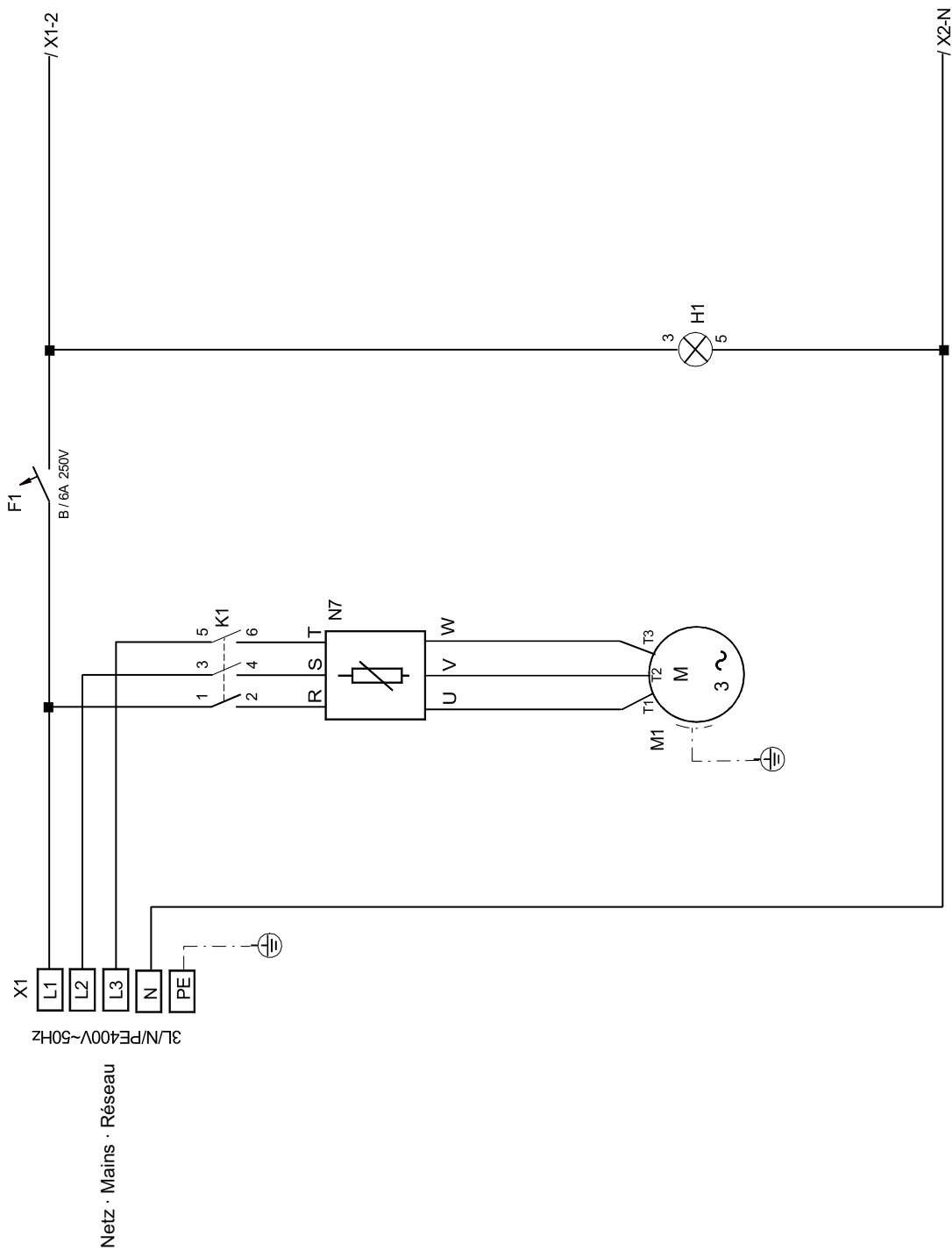


3.3 Legende / Legend / Légende SI 8MR - SI 10MR

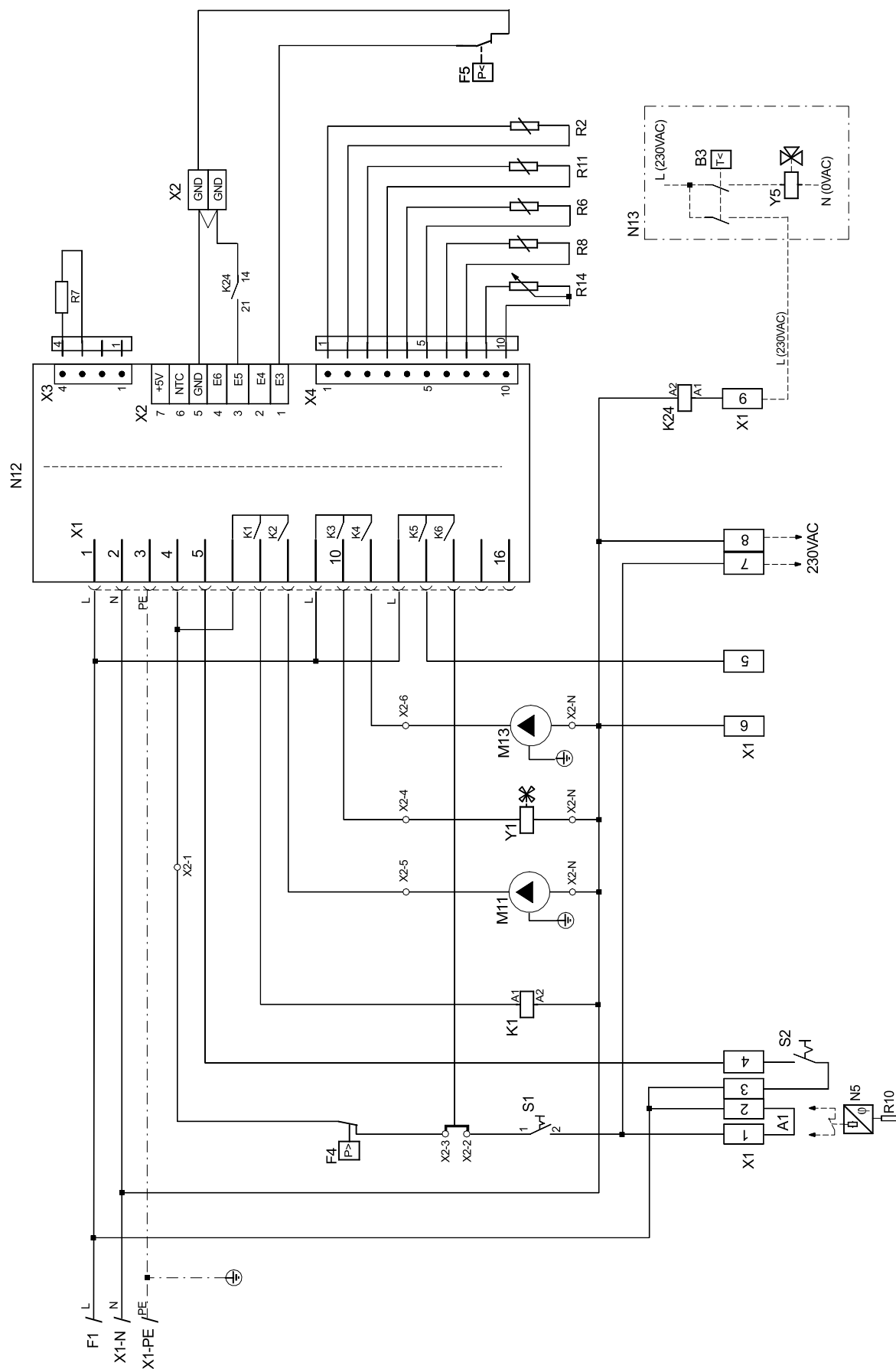
A1	Drahtbrücke muss, bei externer Ansteuerung oder Verwendung eines Taupunktwächters, entfernt werden	Wire jumper, must be removed if external control or a dew point monitor are used	Retirer le cavalier à fil en cas de commande externe ou d'utilisation d'un contrôleur du point de condensation
B3	Thermostat Warmwasser	Hot water thermostat	Thermostat eau chaude
C1	Betriebskondensator	Operating condenser	Condensateur de service
F1	Steuersicherung	Control fuse	Sécurité de commande
F4	Pressostat Hochdruck	High-pressure controller	Pressostat haute pression
F5	Pressostat Niederdruck	Low-pressure controller	Pressostat basse pression
H1	Leuchte Betriebsbereit	Indicator lamp, ready for operation	Affichage prêt à fonctionner
K24	Relais-Warmwasseranforderung	Relay, request for hot water	Relais demande d'eau chaude
K25	Startrelais für N7	Start relay for N7	Relais départ sur N7
M1	Verdichter	Compressor	Compresseur
M11	Primärumschaltpumpe (Sole)	Primary circulating pump (brine)	Circulateur primaire (eau glycolée)
M13	Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
N5*	Taupunktwächter	Dew point monitor	Contrôleur du point de condensation
N7	Sanftanlasser	Soft starter	Démarrateur progressif
N12	Steuerungsplatine	Control PCB	Platine de commande
N13*	Schaltgruppe Warmwasser	Switching assembly, hot water	Groupe commutateur eau chaude
R2	Rücklauffühler	Return flow sensor	Sonde de retour
R6	Eingefrierschutzfühler (Sole)	Flow temperature limit sensor (brine)	Sonde antigel (eau glycolée)
R7	Kodierwiderstand	Coding resistor	Résistance de codage
R8	Frostschutzfühler-Kühlbetrieb (Wasser)	Flow sensor for cooling operation (water)	Capteur protection antigel mode refroidiss. (eau)
R10*	Feuchtefühler	Humidity sensor	Sonde d'humidité
R11	Vorlauffühler	Flow sensor	Sonde circuit départ
R14	Sollwert Potentiometer	Setpoint potentiometer	Valeur nominale potentiomètre
S1	Steuerschalter WP-EIN/AUS	Control switch HP ON/OFF	Commutateur de commande PAC-MARCHE/ARRET
S2	Umschalter HEIZEN/KÜHLEN (Kontakt offen = Heizen)	Changeover switch HEATING/COOLING (contact open = heating)	Commutateur CHAUFFAGE/REFROIDISSEMENT (Contact ouvert = chauffage)
X1	Klemmenleiste Netz L/N/PE-230VAC-50Hz/externe Komponenten	Terminal strip for power supply L/N/PE-230 V AC-50Hz/external components	Bornier réseau L/N/PE-230VAC-50Hz/composants externes
X2	Klemmenleiste interne Verdrahtung	Terminal strip for internal wiring	Bornier câblage interne
X3	Klemmenleiste Verdichter	Terminal strip for compressor	Bornier compresseur
Y1	4-Wege-Umschaltventil Heizen/Kühlen	Four-way reversing valve, heating/cooling	Soupape de commutation 4 voies chauffage/refroidissement
Y5*	3-Wege-Umschaltventil zur Brauchwarmwasserbereitung	Three-way reversing valve for domestic hot water preparation	Soupape de commutation 3 voies pour production ECS
*	Bauteile sind extern beizustellen	Components which must be supplied from external sources	Pièces à fournir par le client

3.4 Last / Load / Charge SI 12TR - SI 16TR

Anhang · Appendix · Annexes



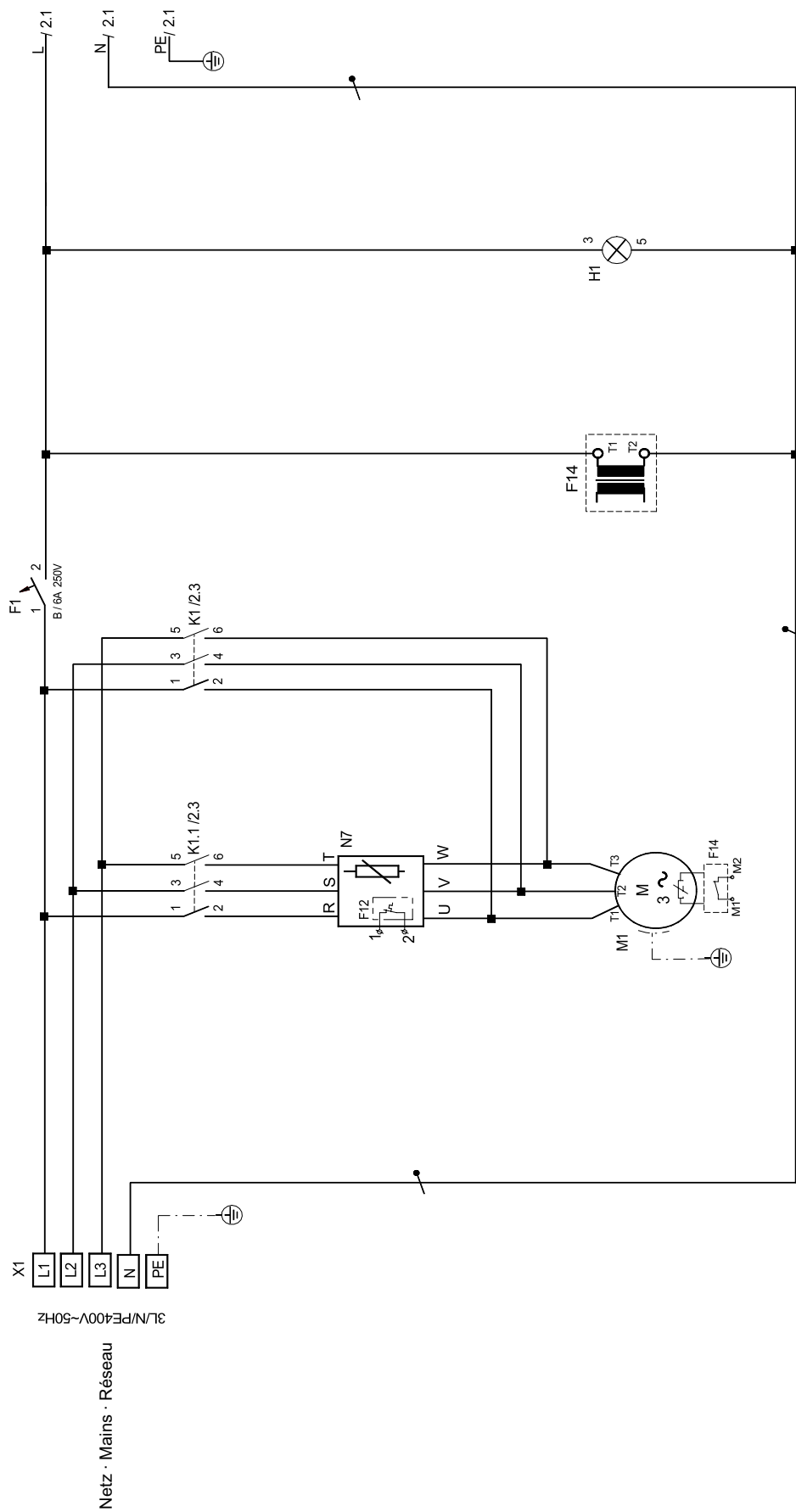
3.5 Steuerung / Control / Commande SI 12TR - SI 16TR



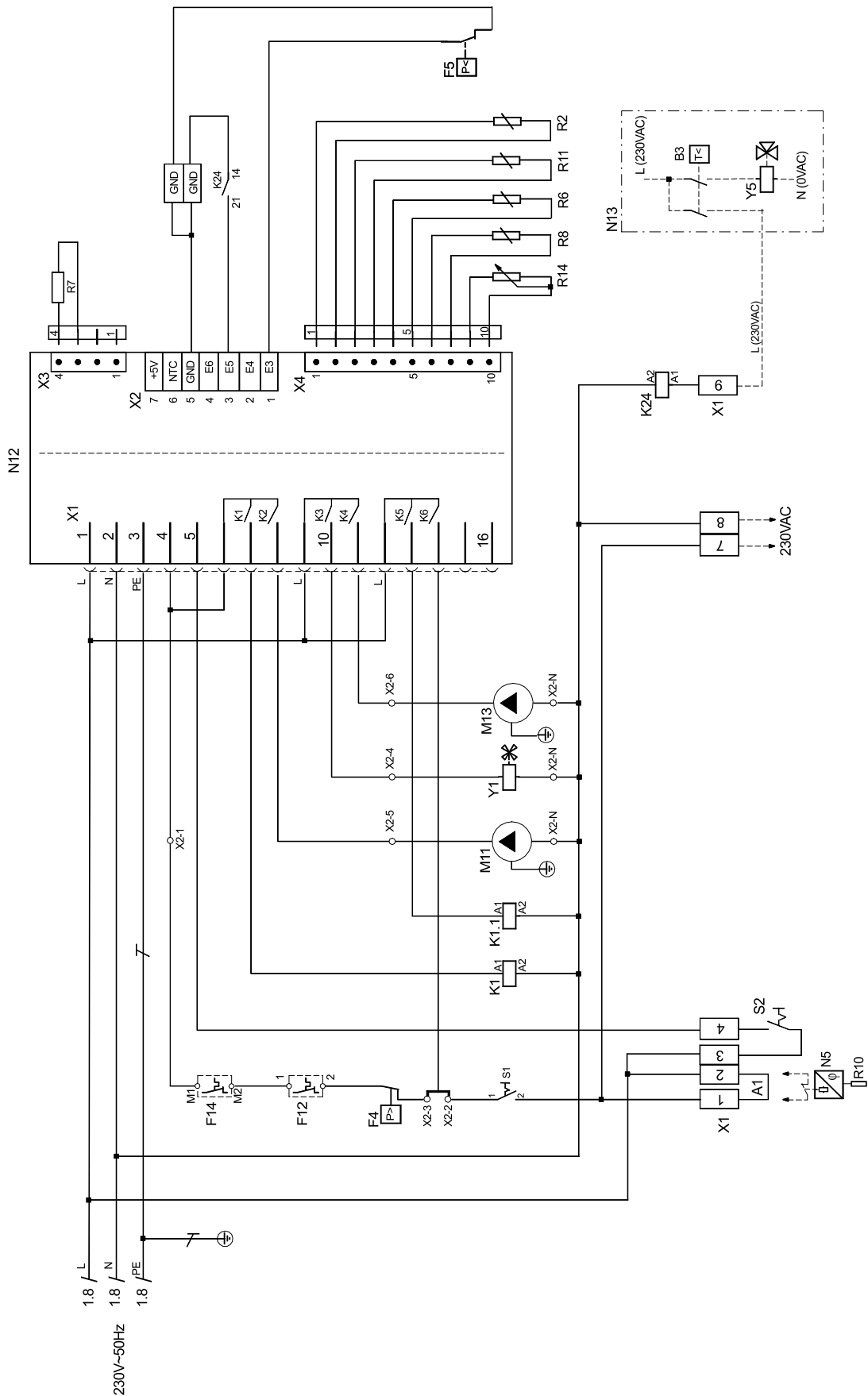
3.6 Legende / Legend / Légende SI 12TR - SI 16TR

A1	Drahtbrücke muss, bei externer Ansteuerung oder Verwendung eines Taupunktwächters, entfernt werden	Wire jumper, must be removed if external control or a dew point monitor are used	Retirer le cavalier à fil en cas de commande externe ou d'utilisation d'un contrôleur du point de condensation
B3	Thermostat Warmwasser	Hot water thermostat	Thermostat eau chaude
F1	Steuersicherung	Control fuse	Sécurité de commande
F4	Pressostat Hochdruck	High-pressure controller	Pressostat haute pression
F5	Pressostat Niederdruck	Low-pressure controller	Pressostat basse pression
H1	Leuchte Betriebsbereit	Indicator lamp, ready for operation	Affichage prêt à fonctionner
K1	Schütz Verdichter	Contacteur for compressor	Contacteur compresseur
K24	Relais-Warmwasseranforderung	Relay, request for hot water	Relais demande d'eau chaude
M1	Verdichter	Compressor	Compresseur
M11	Primärumschälpumpe (Sole)	Primary circulating pump (brine)	Circulateur primaire (eau glycolée)
M13	Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
N5*	Taupunktwärter	Dew point monitor	Contrôleur du point de condensation
N7	Sanftanlasser	Soft starter	Démarrateur progressif
N12	Steuerungsplatine	Control PCB	Platine de commande
N13*	Schaltgruppe Warmwasser	Switching assembly, hot water	Groupe commutateur eau chaude
R2	Rücklauffühler	Return flow sensor	Sonde de retour
R6	Eingefrierschutzfühler (Sole)	Flow temperature limit sensor (brine)	Sonde antigel (eau glycolée)
R7	Kodierwiderstand	Coding resistor	Résistance de codage
R8	Frostschutzfühler-Kühlbetrieb (Wasser)	Flow sensor for cooling operation (water)	Capteur protection antigel mode refroidiss. (eau)
R10*	Feuchtefühler	Humidity sensor	Sonde d'humidité
R11	Vorlauffühler	Flow sensor	Sonde circuit départ
R14	Sollwert Potentiometer	Setpoint potentiometer	Valeur nominale potentiomètre
S1	Steuerschalter WP-EIN/AUS	Control switch HP ON/OFF	Commutateur de commande PAC-MARCHE/ARRET
S2	Umschalter HEIZEN/KÜHLEN	Changeover switch HEATING/COOLING	Commutateur CHAUFFAGE/REFROIDISSEMENT
X1	Klemmenleiste Netz L/N/PE-230VAC-50Hz/externe Komponenten	Terminal strip for power supply L/N/PE-230 V AC-50Hz/external components	Bornier réseau L/N/PE-230VAC-50Hz/composants externes
X2	Klemmenleiste interne Verdrahtung	Terminal strip for internal wiring	Bornier câblage interne
Y1	4-Wege-Umschaltventil Heizen/Kühlen	Four-way reversing valve, heating/cooling	Soupape de commutation 4 voies chauffage/refroidissement
Y5*	3-Wege-Umschaltventil zur Brauchwarmwasserbereitung	Three-way reversing valve for domestic hot water preparation	Soupape de commutation 3 voies pour production ECS
*	Bauteile sind extern beizustellen	Components which must be supplied from external sources	Pièces à fournir par le client

3.7 Last / Load / Charge SI 20TR



3.8 Steuerung / Control / Commande SI 20TR

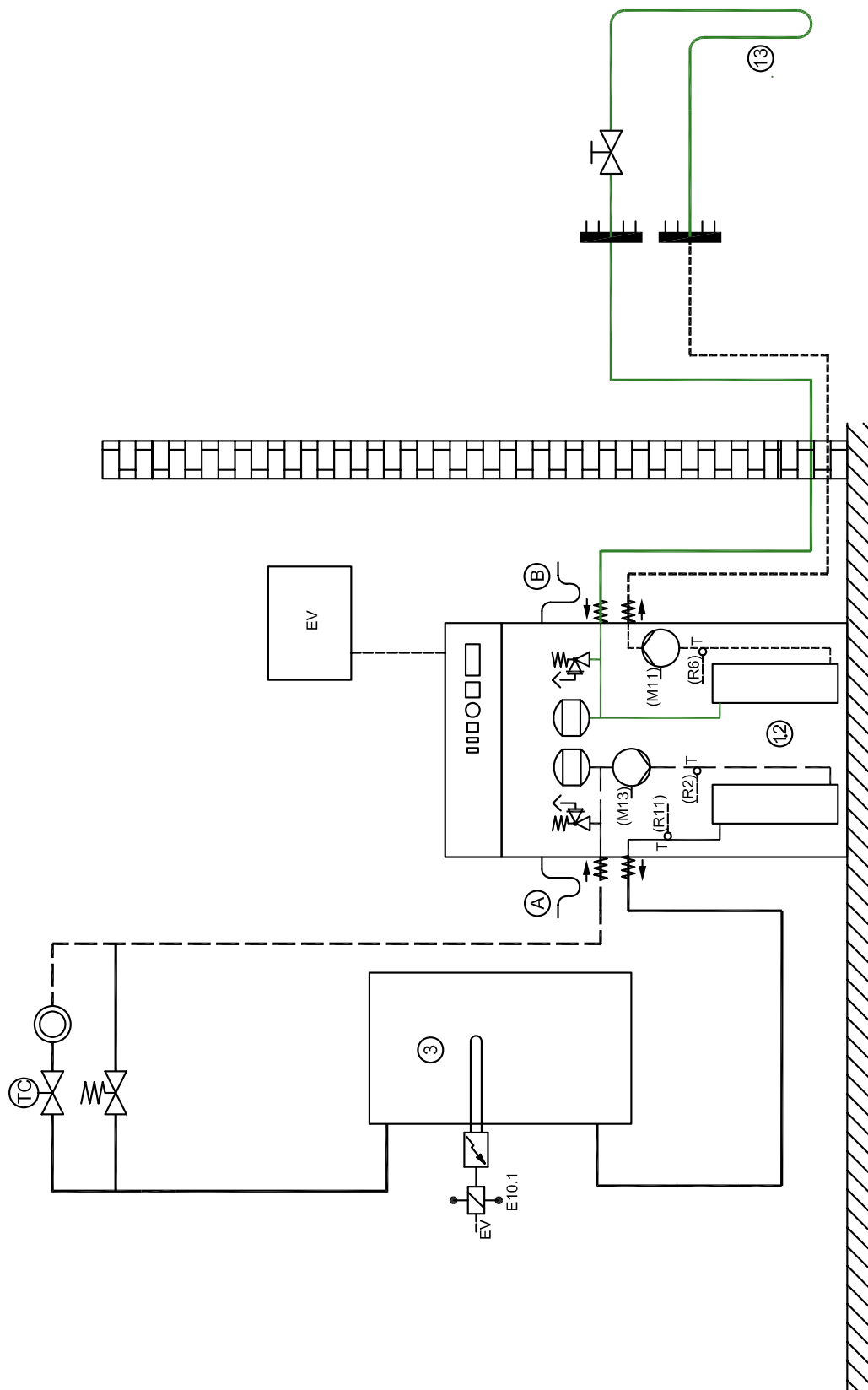


3.9 Legende / Legend / Légende SI 20TR

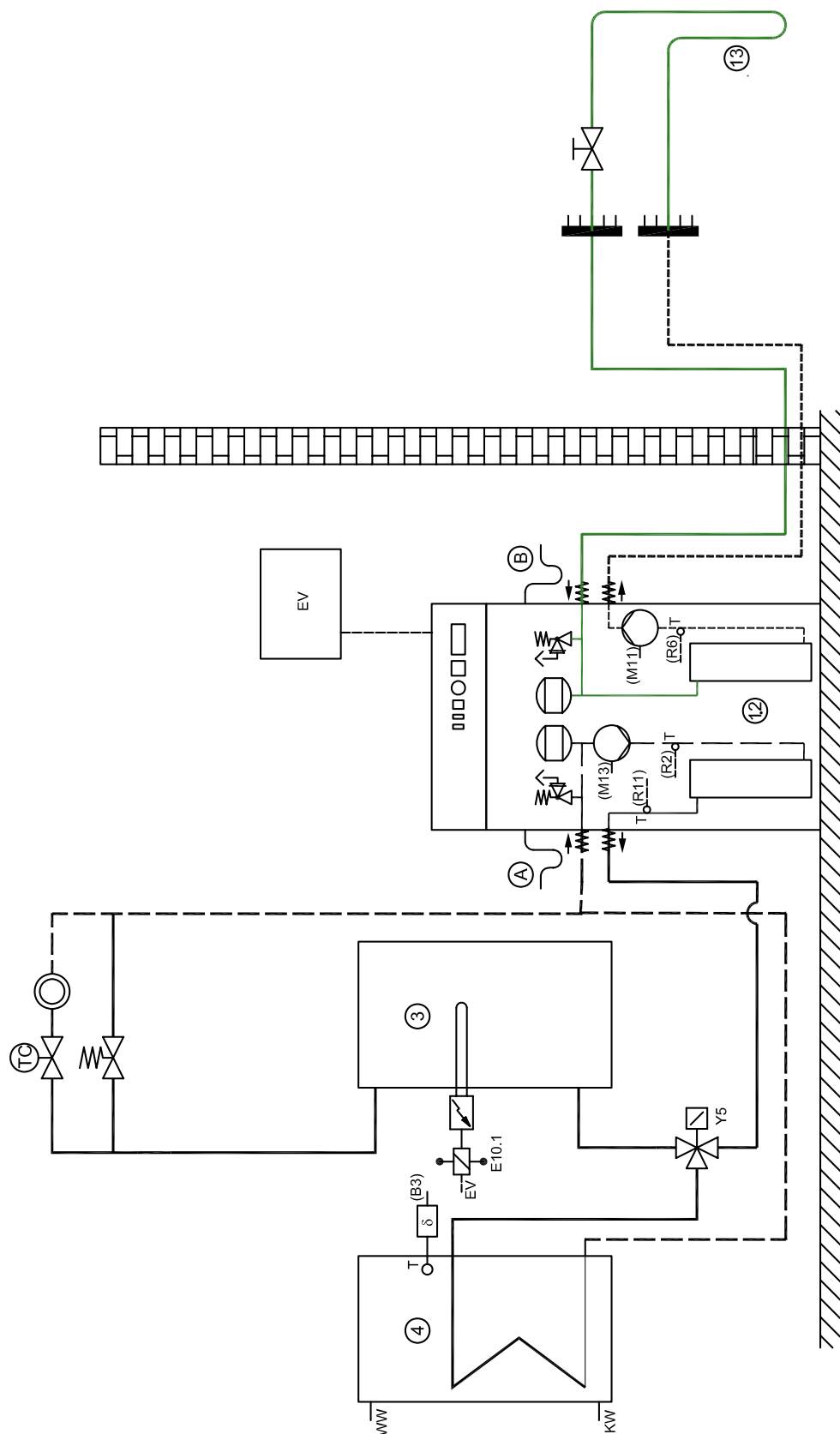
A1	Drahtbrücke muss, bei externer Ansteuerung oder Verwendung eines Taupunktwächters, entfernt werden	Wire jumper, must be removed if external control or a dew point monitor are used	Retirer le cavalier à fil en cas de commande externe ou d'utilisation d'un contrôleur du point de condensation
B3*	Thermostat Warmwasser	Hot water thermostat	Thermostat eau chaude
F1	Steuersicherung	Control fuse	Sécurité de commande
F4	Pressostat Hochdruck	High-pressure controller	Pressostat haute pression
F5	Pressostat Niederdruck	Low-pressure controller	Pressostat basse pression
H1	Leuchte Betriebsbereit	Indicator lamp, ready for operation	Affichage prêt à fonctionner
K1	Schütz Verdichter	Contacteur for compressor	Contacteur compresseur
K1.1	Schütz Anlaufstrombegrenzung von M1	Contacteur for starting current limiter from M1	Contacteur courant limite de démarrage de M1
K24	Relais-Warmwasseranforderung	Relay, request for hot water	Relais demande d'eau chaude
M1	Verdichter	Compressor	Compresseur
M11	Primärumschälzpumpe (Sole)	Primary circulating pump (brine)	Circulateur primaire (eau glycolée)
M13	Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
N5*	Taupunktwärter	Dew point monitor	Contrôleur du point de condensation
N7	Sanftanlasser	Soft starter	Démarrateur progressif
N12	Steuerungsplatine	Control PCB	Platine de commande
N13*	Schaltgruppe Warmwasser	Switching assembly, hot water	Groupe commutateur eau chaude
R2	Rücklauffühler	Return flow sensor	Sonde de retour
R6	Eingefrierschutzfühler (Sole)	Flow temperature limit sensor (brine)	Sonde antigel (eau glycolée)
R7	Kodierwiderstand	Coding resistor	Résistance de codage
R8	Frostschutzfühler-Kühlbetrieb (Wasser)	Flow sensor for cooling operation (water)	Capteur protection antigel mode refroidiss. (eau)
R10*	Feuchtefühler	Humidity sensor	Sonde d'humidité
R11	Vorlaufühler	Flow sensor	Sonde circuit départ
R14	Sollwert Potentiometer	Setpoint potentiometer	Valeur nominale potentiomètre
S1	Steuerschalter WP-EIN/AUS	Control switch HP ON/OFF	Commutateur de commande PAC-MARCHE/ARRET
S2	Umschalter HEIZEN/KÜHLEN	Changeover switch HEATING/COOLING	Commutateur CHAUFFAGE/REFROIDISSEMENT
X1	Klemmenleiste Netz L/N/PE-230VAC-50Hz/externe Komponenten	Terminal strip for power supply L/N/PE-230 V AC-50Hz/external components	Bornier réseau L/N/PE-230VAC-50Hz/composants externes
X2	Klemmenleiste interne Verdrahtung	Terminal strip for internal wiring	Bornier câblage interne
Y1	4-Wege-Umschaltventil Heizen/Kühlen	Four-way reversing valve, heating/cooling	Soupape de commutation 4 voies chauffage/refroidissement
Y5*	3-Wege-Umschaltventil zur Brauchwarmwasserbereitung	Three-way reversing valve for domestic hot water preparation	Soupape de commutation 3 voies pour production ECS
*	Bauteile sind extern beizustellen	Components which must be supplied from external sources	Pièces à fournir par le client

4 Hydraulische Prinzipschemen / Hydraulic block diagrams / Schémas hydrauliques











4.1 Heizen und dynamische Kühlung / Heating and dynamic cooling / Chauffage et refroidissement hydrauliques



4.2 Heizen und dynamische Kühlung und Warmwasserbereitung / Heating and dynamic cooling and hot water preparation / Chauffage et refroidissement hydrauliques et production d'eau chaude



4.3 Legende / Legend / Légende

	Absperrventil	Shutoff valve	Robinet d'arrêt
	Überstromventil	Overflow valve	Soupape de trop-plein
	Sicherheitsventilkombination	Safety valve combination	Groupe de valves de sécurité
	Umwälzpumpe	Circulating pump	Circulateur
	Ausdehnungsgefäß	Expansion vessel	Vase d'expansion
	Raumtemperaturgesteuertes Ventil	Room temperature-controlled valve	Valve commandée par température
	Drei-Wege-Ventil	Three-way valve	Soupape 3 voies
	Wärmeverbraucher	Heat consumer	Consommateur de chaleur
	Temperaturfühler	Temperature sensor	Sonde de température
	Flexibler Anschlussschlauch	Flexible connection hose	Tuyau de raccord flexible
⑫	Sole/Wasser-Wärmepumpe	Brine-to-water heat pump	Pompe à chaleur eau glycolée/eau
③	Pufferspeicher	Buffer tank	Réservoir tampon
④	Warmwasserspeicher	Hot water cylinder	Ballon d'eau chaude
⑬	Erdwärmesonden	Borehole heat exchangers	Sondes géothermiques
Ⓐ	Überdruck Heizung	Overpressure of the heating system	Surpression chauffage
Ⓑ	Überdruck Sole	Overpressure of the brine	Surpression eau glycolée
EV	Elektroverteilung	Electrical distribution system	Distributeur courant électrique
KW	Kaltwasser	Cold water	Eau froide
WW	Warmwasser	Hot water	Eau chaude
E10.1	Elektroheizstab	Electric heating element	Cartouche chauffante
B3	Warmwasserthermostat	Hot water thermostat	Thermostat d'eau chaude
M11	Primärumschleppumpe	Primary circulating pump	Circulateur primaire
M13	Heizungs-Umschleppumpe	Heat circulating pump	Circulateur de chauffage
R2	Rücklauffühler	Return flow sensor	Sonde de retour
R6	Eingefrierschutz Sole	Flow temperature limit sensor, brine	Sonde antigel eau glycolée
R11	Vorlauffühler	Flow sensor	Sonde circuit départ
Y5	Drei-Wege-Ventil	Three-way valve	Soupape 3 voies

5 Konformitätserklärung / Declaration of Conformity / Déclaration de conformité

EG - Konformitätserklärung EC Declaration of Conformity Déclaration de conformité CE

Der Unterzeichnete
The undersigned
La société soussignée,

Glen Dimplex Deutschland GmbH
Geschäftsbereich Dimplex
Am Goldenen Feld 18
D - 95326 Kulmbach

bestätigt, dass das (die) nachfolgend be-
zeichnete(n) Gerät(e) aufgrund seiner (ihrer)
Konzipierung und Bauart sowie in der von
uns in Verkehr gebrachten Ausführung den
einschlägigen grundlegenden Anforderungen
der EG-Richtlinien entspricht (entsprechen).

Bei einer nicht mit uns abgestimmten
Änderung des (der) Gerät(e)s verliert
diese Erklärung ihre Gültigkeit.

hereby confirm that the design and con-
struction of the product(s) listed below,
in the version(s) placed on the market by
us, conform to the relevant requirements
of the applicable EC directives.

This declaration becomes invalidated
if any modifications are made to
the product(s) without our prior
authorisation.

certifie que l'appareil / les appareils ci-
après, par leur conception et leur mode de
construction ainsi que par la définition
technique avec laquelle il(s) sont mis en
circulation par notre société, est / sont
conforme(s) aux directives fondamentales
CEE afférentes.

Ce certificat perd sa validité pour tout
appareil modifié sans notre consentement.

Bezeichnung / Designation / Désignation

Sole/Wasser-Wärmepumpen
für Innenaufstellung mit R407C
Brine-to-water heat pumps
for indoor installation, containing R407C
Pompes à chaleur eau glycolée/eau
pour installation intérieure avec R407C

EG - Richtlinien / EC Directives / Directives CEE

EG- Niederspannungsrichtlinie / EC Low Voltage Directive /
Directive CEE relative à la basse tension (73/23/EWG)
EG-EMV-Richtlinie / EC EMC Directive / Directive CEE
relative à la compatibilité électromagnétique (89/336/EWG)
Druckgeräterichtlinie / Pressure Equipment Directive /
Directive CEE relative aux appareils sous pression (97/23/EG)

Typ(e):


Harmonisierte EN / Harmonized EB Standards / Normes EN harmonisées:

SI 8MR	EN 255:1997	
SI 10MR	EN 378:2000	
SI 12TR	DIN 8901	
SI 14TR	DIN EN 60335-1 (VDE 0700 T1):2005-07	EN 60335-1:2002+A11:2004+A1:2004
SI 16TR	DIN EN 60335-2-40 (VDE 0700 T40):2004-03	EN 60335-2-40:2003
SI 20TR	DIN EN 55014-1 (VDE 0875 T14-1):2003-09	EN 55014-1:2000+A1:2001+A2:2002
	DIN EN 55014-2 (VDE 0875 T14-2):2002-08	EN 55014-2:1997+A1:2001
	DIN EN 61000-3-2 (VDE 0838 T2):2001-12	EN 61000-3-2:2000
	DIN EN 61000-3-3 (VDE 0838 T3):2002-05	EN 61000-3-3:1995+Corr.:1997+A1:2001

Nationale Richtlinien / National Directives / Directives nationales

D	A	CH
VBG20		SVTI

Kulmbach, 05.05.2006
CE06W05B.doc


Wolfgang Weinhold
Geschäftsführer / Managing Director


Andreas Tilch
Spartenleiter / Head of business unit

